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Des Moines University Bulletin


Entered as second class matter at the post office Des Moines,
Iowa, under the act of July 16, 1894. Published monthly.

VOL. 20

APRIL, 1922

No. 4

UNIVERSITY OF ILLINOIS LIBRARY
JUN 13 1922



DES MOINES UNIVERSITY CATALOGUE 1921-1922

With Announcements for 1922-1923

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DES MOINES, IOWA

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ERRATA

- ge 35—In Freshman Year, under "Manifest of Work by Years,"
add: Mathematics or Science² 12-15 hours.
- ge 59—Under "Requirements for Admission," after "see pages,"
add: 30-32.
- ge 66—In First Year, under "Kindergarten-Primary Course," omit
Elements of Music, 13 hours.
- ge 102—In Freshman Year, under "Major in Violin," after "Liberal
Arts," change 15 to 9.

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HIGHLAND PARK
DES MOINES, IOWA

THE FRANKLIN CO. CHI.

CALENDAR FOR 1922

THE PARKER CO. CHICAGO

| JANUARY. | | | | | | | FEBRUARY. | | | | | | | MARCH. | | | | | | | APRIL. | | | | | | | |
|------------|-------|-------|-------|-------|-------|-------|-----------|-------|-------|-------|-------|-------|-------|-----------|-------|-------|-------|-------|-------|-------|-----------|-------|-------|-------|-------|-------|-------|---|
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| MAY. | | | | | | | JUNE. | | | | | | | JULY. | | | | | | | AUGUST. | | | | | | | |
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CALENDAR FOR 1923

THE FRANKLIN CO. CHI.

| JANUARY. | | | | | | | FEBRUARY. | | | | | | | MARCH. | | | | | | | APRIL. | | | | | | |
|------------|-------|-------|-------|-------|-------|-------|-----------|-------|-------|-------|-------|-------|-------|-----------|-------|-------|-------|-------|-------|-------|-----------|-------|-------|-------|-------|-------|-------|
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| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 28 | 29 | 30 | 31 | | | | 25 | 26 | 27 | 28 | | | | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 29 | 30 | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MAY. | | | | | | | JUNE. | | | | | | | JULY. | | | | | | | AUGUST. | | | | | | |
| S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S |
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| SEPTEMBER. | | | | | | | OCTOBER. | | | | | | | NOVEMBER. | | | | | | | DECEMBER. | | | | | | |
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| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 | 28 | 29 | 30 | 31 | | | | 25 | 26 | 27 | 28 | 29 | 30 | | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | | | | | | | | | | | | | | | | | | | | | 30 | 31 | | | | | |

CALENDAR

1922

| | | |
|----------|-----------|--|
| June 12 | Monday | Summer Quarter begins. |
| June 12 | Monday | } Registration for the Summer Quarter. |
| June 13 | Tuesday | |
| June 13 | Tuesday | Class-work begins. Opening Assembly, 9:35. |
| July 4 | Tuesday | Independence Day: a holiday. |
| Aug. 18 | Friday | } Examinations for the Summer Quarter.* |
| Aug. 19 | Saturday | |
| Aug. 19 | Saturday | Summer Quarter ends. |
| Sept. 19 | Tuesday | Autumn Quarter begins. |
| Sept. 19 | Tuesday | } Registration for the Autumn Quarter. |
| Sept. 20 | Wednesday | |
| Sept. 20 | Wednesday | Class-work begins. |
| Sept. 21 | Thursday | Opening Assembly, 9:35 a. m. |
| Oct. 3 | Tuesday | Annual Chicken Roast. |
| Nov. 11 | Saturday | Armistice Day. |
| Nov. 30 | Thursday | Thanksgiving Day: a holiday. |
| Dec. 1 | Friday | A holiday. |
| Dec. 18 | Monday | } Examinations for the Autumn Quarter. |
| Dec. 19 | Tuesday | |
| Dec. 19 | Tuesday | Registration for the Winter Quarter. |
| | | Autumn Quarter ends. |

1923

| | | |
|---------|-----------|--|
| Jan. 2 | Tuesday | Winter Quarter begins. |
| Jan. 2 | Tuesday | Registration for the Winter Quarter. |
| Jan. 3 | Wednesday | Class-work begins. |
| Jan. 4 | Thursday | Opening Assembly, 9:35 a. m. |
| Feb. 22 | Thursday | Washington's Birthday Banquet. |
| Mar. 15 | Thursday | } Examinations for the Winter Quarter. |
| Mar. 16 | Friday | |
| Mar. 16 | Friday | Registration for the Spring Quarter. |
| Mar. 21 | Wednesday | Winter Quarter ends, 5:00 p. m. |
| Mar. 21 | Wednesday | Spring Quarter begins. |
| Mar. 21 | Wednesday | Registration for the Spring Quarter. |
| Mar. 22 | Thursday | Class-work begins. |
| Mar. 22 | Thursday | Opening Assembly, 9:35 a. m. |
| May 30 | Wednesday | Memorial Day: a holiday. |
| June 3 | Sunday to | } Commencement. |
| June 6 | Wednesday | |
| June 5 | Tuesday | } Examinations for the Spring Quarter. |
| June 6 | Wednesday | |
| June 6 | Wednesday | Spring Quarter ends. |
| June 11 | Monday | Summer Quarter begins. |
| June 11 | Monday | } Registration for the Summer Quarter. |
| June 12 | Tuesday | |
| June 12 | Tuesday | Class-work begins. Opening Assembly, 9:35. |

*These dates will be one week later if the students in attendance vote to make the last term six weeks, five days a week.

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PRELIMINARY

HISTORICAL SKETCH

Des Moines University is a union of Des Moines College and the Baptist interests of Central College of Iowa, together with Burlington Collegiate Institute and Sac City Institute, located on the campus of Highland Park College. It represents, therefore, many converging educational streams.

Burlington Collegiate Institute was incorporated as Burlington University, at Burlington, by Baptists of Iowa in 1852. The school discontinued its work in 1901 and its net assets were transferred to the American Baptist Education Society for the benefit of Des Moines College. Central College was established at Pella in 1853 by Baptists of Iowa, under the name, Central University of Iowa. Des Moines College, incorporated as the University of Des Moines, was founded in 1865, also by Baptists of Iowa. Sac City Institute, located at Sac City, Iowa, was organized as an Academy under Baptist auspices in 1894. In 1914 the school was closed and its net assets were turned over to Des Moines College. Highland Park College, located in a suburb of Des Moines, was established under a private Board of Trustees in 1889, and was conducted as a College of Liberal Arts and a school of technical and vocational training. In 1911 it was transferred to a Board of Trustees representing the Presbyterian denomination, and remained under their control until purchased by the Baptists in 1918.

After many attempts at the co-ordination of their educational activities, the Baptists of Iowa, in 1916, consolidated Des Moines College and the Baptist interests of Central College in a new institution which should have a new name and a new campus either in Des Moines or elsewhere; and a holding corporation was formed, known legally as Union College of Iowa, to which were turned over the transferable assets of both schools. It was agreed that Des Moines College should continue the college educational work of the denomination until \$500,000 had been raised, when the new enterprise would be launched. This condition having been fulfilled, and the necessary legal adjustments having been made at the annual meeting of the Board of Trustees in June, 1920, the educational work of Des Moines College was transferred to the new institution in December of that year.

Meanwhile, a new campus of about twenty-five acres and good buildings had been secured by the purchase of Highland Park College, on March 13, 1918. A week later, Des Moines College, faculty, students, office force, employees, and equipment were transferred from the old campus on Ninth Street, in North Des Moines, to the new campus in Highland Park, which is now the permanent location of the school.

When the name, Union College of Iowa, was adopted, it was expected that this designation would be temporary; and on December 14, 1920, the Board of Trustees unanimously adopted the name Des Moines University for the consolidated institution, and amended the Articles of Incorporation to that effect, this name having been unanimously approved by the Iowa Baptist State Convention at Keokuk, in

October, 1920. Des Moines University is now the only Baptist College in the State of Iowa. It has also been approved by the national denominational organization, the Northern Baptist Convention, which has pledged to the institution \$1,785,000.00 out of the hundred million dollar campaign now being carried on by the Baptists of the North.

No denominational or religious tests, however, are required for admission to the University, but all young people of good moral character who have the necessary educational preparation and who are in sympathy with its purposes, are entitled to its advantages without regard to church affiliations.

OBJECTIVE

As appears from the foregoing sketch, Des Moines University is a union of Colleges of Liberal Arts, housed in the educational plant of a College of pronounced technical and vocational interests. The aim of the new institution will be to preserve genuine cultural education, while at the same time giving due emphasis to the practical needs of young people preparing for their life work. This will be done, however, as higher education, with due regard to approved educational standards, and not as vocational training alone. In other words, circumstances have forced Des Moines University somewhat suddenly into that reorganization of curriculum which most Colleges of Liberal Arts are undertaking in a more deliberate way, in the direction of a more vital relationship with the interests of life. The location of the University in the city of Des Moines affords an unsurpassed opportunity for this readjustment and for emphasizing the training of teachers, social science and social service, the business and industrial aspects of economics, applied courses in natural sciences, and technical courses in engineering and other subjects.

In undertaking this work, Des Moines University is animated by the very definite objective of training Christian citizens and leaders, using the word "citizens" in the broad sense of men and women who are to fulfill their relations and obligations in civic, social and industrial life. The University makes no apology for this Christian emphasis, and, indeed, holds that such emphasis is the chief justification for church-supported schools. The problems of our modern life demand the intelligent comprehension and vigorous leadership of men and women who understand the Christian spirit and are dominated by it. In its educational purposes and plans, therefore, Des Moines University seeks to avail itself of genuine cultural, scientific and technical education, on the one hand, and of the vital forces of the Christian religion, on the other hand, thus combining these two great agencies in the development of a well-rounded education for young men and women.

ORGANIZATION

Des Moines University wishes to emphasize the fact that it has not adopted the title, University, in the sense of a graduate and research institution, which it does not at the present time pretend to be, but rather in the sense of a corporate collection of Colleges and Schools, which seems also to be a legitimate and authorized use of the term. The University is organized into the Colleges and Schools listed below, each presided over by a Dean or Director. The President of the University has charge of general administration, the public constituency, and the financial support of the institution. The internal and educational administration has been vested in the Chancellor. The Business Manager has general charge of the business affairs of the University, including the buildings and grounds.

COLLEGES AND SCHOOLS

THE COLLEGE OF LIBERAL ARTS
 THE COLLEGE OF EDUCATION
 THE COLLEGE OF ENGINEERING
 THE COLLEGE OF PHARMACY
 THE SCHOOL OF FINE ARTS
 Conservatory of Music.
 Department of Dramatic Art.
 Department of Drawing and Painting.
 THE UNIVERSITY INSTITUTE
 Preparatory Department.
 Industrial Department.
 Commercial Courses.
 THE EXTENSION DIVISION
 DANISH BAPTIST THEOLOGICAL SEMINARY (Affiliated)

HISTORICAL CALENDAR

- 1852 Articles of Incorporation adopted for Burlington University, Burlington, Iowa.
- 1853 Central University of Iowa incorporated and located at Pella, Iowa.
- 1865 The University of Des Moines incorporated and located in Des Moines, Iowa.
- 1889 Highland Park College incorporated and located in Des Moines, Iowa.
- 1889 The University of Des Moines changed by filing new articles of incorporation to "Des Moines College."
- 1894 Articles of Incorporation adopted for Sac City Institute, Sac City, Iowa.
- 1901 Burlington University, now called "Burlington Collegiate Institute," merged in Des Moines College.
- 1914 Sac City Institute merged in Des Moines College.
- 1915 Movement begun to merge the interests of Central College and Des Moines College in one new college.
- 1915 Committee of sixteen, consisting of seven trustees of Central University and seven trustees of Des Moines College and two officers of the Board of Education of the Northern Baptist Convention, organized to work out plans for the unifying of Central University and Des Moines College in one new college.
- 1916 Central University of Iowa, on advice of the officers of the Board of Education of the Northern Baptist Convention, transferred to the Reformed Church of America.
- 1916 \$200,000 pledged to new college by Des Moines commercial organizations.
- 1916 Iowa Baptist Convention, on recommendation of the committee of sixteen, voted to establish one new college with a new name on a new campus, in which the college interests of the Baptists of Iowa would be united.
- 1916 Union College of Iowa organized as a holding corporation for the property interests of Des Moines College and such funds and pledges as were transferred from Central University of Iowa through the Board of Education of the Northern Baptist Convention.
- 1916 Des Moines College by vote of the Iowa Baptist Convention was continued to carry on the college work until half a million dollars should be secured in cash and pledges for the new college.

- 1916 Des Moines College buildings and grounds sold on contract, the same to be delivered to purchaser June 15, 1918.
- 1918 Highland Park College purchased.
- 1918 Des Moines College moved to Highland Park campus.
- 1918 Iowa Baptist Convention voted to ratify the action of the Board of Trustees of the new college making Highland Park campus the permanent location of the institution.
- 1919 New College placed in budget of Baptist New World Movement for \$1,785,000.
- 1919 Baptists of Iowa complete pledges of \$400,000 to new college.
- 1920 Des Moines College, according to terms of agreement with Central College, gave up its name and work as an educational institution.
- 1920 "Des Moines University" chosen as the name of the new institution and ratified unanimously by the Iowa Baptist Convention in annual meeting at Keokuk, Iowa. By amendment of the articles of incorporation, Union College of Iowa was changed to Des Moines University.

CHRONOLOGY OF CENTRAL UNIVERSITY OF IOWA

- 1853 Resolution adopted by a state convention of Iowa Baptists to locate a college at Pella, Iowa.
- 1854 Opening of academic department under principalship of Dr. E. H. Scharff.
- 1856 Central Hall opened for use.
- 1857 Rev. Elihu Gunn, A. M., D. D., first president.
- 1861 One hundred twenty-three professors and students enlisted in the army.
- 1866 The trees on the campus were planted.
- 1871 Rev. L. A. Dunn, D. D., president.
- 1881 Rev. George W. Gardner, D. D., president.
- 1885 Rev. Daniel Reed, LL. D., president.
- 1886 Rev. L. A. Dunn, D. D., recalled to the presidency.
- 1888 Death of President Dunn and election of President S. J. Axtell.
- 1891 Rev. John Stuart, Ph. D., president.
- 1895 Rev. A. B. Chaffee, D. D., president.
- 1900 Rev. L. A. Garrison, D. D., president.
- 1901 Erection of Y. M. and Y. W. C. A. Building.
- 1905 Erection of Dunn Cottage as President's residence.
- 1909 President Garrison resigned.
- 1911 John L. Beyl, Ph. D., president.
- 1914 John W. Bailey, Ph. D., president.
- 1916 The college after sixty-three years of work under the auspices of the Baptists was transferred to the control of the Reformed Church in America.

CHRONOLOGY OF DES MOINES COLLEGE

- 1865 The University of Des Moines incorporated and located on Pleasant and Sixteenth Streets, Des Moines, Iowa.
- 1865 Rev. J. A. Nash, D. D., chosen first president of the institution.
- 1870 Col. Alonzo Abernethy elected president.
- 1872 Rev. J. A. Nash, D. D., recalled as president.
- 1875 Judge Frederick Mott elected president.
- 1881 D. F. Call elected president.
- 1883 Dr. Ira E. Kenney became president, and under his leadership the old campus on Pleasant Street was abandoned for the new site on Ninth Street and College Avenue.

- 1884 Erection of first building on new site, later known as Burlington Hall.
- 1887 Dedication of Nash Hall, named for J. A. Nash, D. D.
- 1887 James P. Stephenson, Ph. D., chosen as acting president.
- 1889 Rev. H. L. Stetson, LL. D., elected president.
- 1891 Successful completion of the campaign to raise an endowment of \$100,000.
- 1891 Joseph V. Hinchman, Glenwood, Iowa, pledges \$25,000 to endowment.
- 1891 American Baptist Education Society pledges \$12,500 to endowment.
- 1891 William Aitchison, Jr., elected treasurer.
- 1892 Affiliated with the University of Chicago.
- 1900 American Baptist Education Society pledges \$25,000 for debts and endowment.
- 1900 President Stetson resigns.
- 1901 Rev. George D. Adams, D. D., elected president.
- 1903 President Adams resigns and Rev. J. K. Richardson is elected as acting president.
- 1905 Loran D. Osborn, Ph. D., elected president.
- 1909 New Nash Hall dedicated.
- 1911 President Osborn resigns.
- 1911 Rev. John A. Earl, D. D., elected president.
- 1912 Mrs. Eleanor Childs, Waterloo, Iowa, pledges \$50,000 for a memorial dormitory for women.
- 1913 Childs Hall dedicated.
- 1913 School of Education established.
- 1914 Chautauqua Park purchased.
- 1918 Des Moines College buildings and grounds transferred to Bishop Dowling.
- 1918 Des Moines College faculty, students, and equipment moved to the campus of Highland Park College.
- 1920 Des Moines College merged in Des Moines University, thus closing fifty-five years of educational work.

CHRONOLOGY OF DES MOINES UNIVERSITY

- 1916 Union College of Iowa incorporated with a board of twenty-four trustees.
- 1916 Rev. John H. Lyon, D. D., Field Secretary of the Board of Education of the Northern Baptist Convention, begins the work of raising \$500,000.00 for the new College.
- 1917 Rev. J. F. Sanders, D. D., appointed as field agent.
- 1917 Rev. John W. Bailey, Ph. D., elected to assist in securing the \$500,000.
- 1917 Mr. James R. Vaughan elected campaign director.
- 1918 Mr. James R. Vaughan begins work as business manager and treasurer.
- 1918 Contract entered into with the War Department for the training of soldier mechanics.
- 1918 New dormitory for women reorganized at a cost of \$25,000.00 and called "Eleanor Childs Hall."
- 1918 First detachment of 200 soldiers come to the campus for training.
- 1918 Student Army Training Corps.
- 1918 Rev. Wilbur L. Clapp appointed campaign director.
- 1919 Campaign for \$500,000.00 completed.
- 1919 Board of Education of Northern Baptist Convention pledges \$1,000,000 for endowment and \$785,000 for equipment.

- 1920 Albert B. Johnson donates farm of 240 acres in Madison County, Iowa.
- 1920 Humboldt Hall remodeled at a cost of \$12,500 and renamed "Johnson Hall" in honor of Mr. and Mrs. Albert B. Johnson, Truro, Iowa.
- 1920 John A. Earl, D. D., having closed his work as president of Des Moines College with the merging of Des Moines College in the new college, is elected president.
- 1920 Union College of Iowa changed to Des Moines University.
- 1920 President Earl resigns to take effect June 1, 1921.
- 1920 Office of Chancellor created, charged with Internal and Educational Administration.
- 1920 Loran D. Osborn, Ph. D., elected chancellor.
- 1921 John W. Million, LL. D., elected president.
- 1921 Death of Dr. O. H. Longwell, president of Highland Park College from 1889 to 1911.
- 1921 Death of Rev. R. R. Sadler, D. D., editor of the Baptist Record, for many years member of the Board of Trustees of Central College, and member of the first Board of Trustees of Des Moines University and until the time of his death.
- 1921 Des Moines University Alumni Association organized.
- 1922 Rev. A. C. Hageman, D. D., appointed Alumni Secretary to assist in raising the fund for an Alumni Memorial Building and an Alumni Endowment.

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3407 Fifth Street

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College, '12

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3415 Fourth Street

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1610 E. Eighth Street

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*On leave of absence 1921-22; resigned, effective September 1, 1922.

CHARLES E. GERMANE, Ph. D.
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Director of Religious Life

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 University, '21

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3718 Second Street
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 Des Moines University, '21

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RAYMOND N. CARR, A. B.
**Dean of the School of Fine Arts*

3119 Oxford Avenue
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 Des Moines University, '21

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†Director of the University Institute

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 University, '21

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Dean of Women

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Eleanor Childs Hall

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Instructor in History

605 Ovid Avenue

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HARRY M. BELL, B. S.

Instructor in Physical Education

Athletic Coach

Johnson Hall

B. S., Drake; Des Moines University, '20

EUGENE F. DAWSON, B. M. E.

Instructor in Engineering Drawing and Design

B. M. E., Ohio State; Des Moines University, '21

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JOHN W. MILLION, JR., A. B.

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S. E. GIBBS, B. E.

Superintendent of the Engineering Shops

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HARDY W. LARSON, B. S.

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1607 E. Walnut Street

B. S., Drake; Des Moines University, '21

JESSIE S. HERRIOTT

Director of Physical Training for Women

Eleanor Childs Hall

Graduate, New Haven Normal School of Gymnastics; Special Courses,
Columbia University, and Chicago Normal School of Physical
Education; Des Moines University, '22

EVA M. PAGE

Librarian

820 Euclid Avenue

Des Moines University, '21

LAURA TATE

Assistant Librarian

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*For Faculty of the School of Fine Arts, see page 100.

†For Faculty of the University Institute, see page 111.

For Faculty of the Danish Baptist Theological Seminary, see page 119.

GENERAL INFORMATION

LOCATION

The ideal location for a University combines quiet for study with easy access to the interests and activities of real life. This ideal is fully realized in the location of Des Moines University at Highland Park, a fine residence suburb of the capital and metropolis of the State, three miles north of the business center of the city. Des Moines has a population of 130,000 and is an important center of governmental, religious, educational, commercial, and industrial affairs. The principles and machinery of government may be studied at first hand in the laboratory of state and municipal administration; the business and industrial activities of modern life are available for the student's investigation; the churches, art galleries, state and city libraries, state historical collection, lectures, addresses, musical entertainments, all contribute to the value of University life at Des Moines. Des Moines is located near the center of the State, and is easily accessible from all directions, thus making possible a statewide educational service at a minimum of traveling expense to the student.

CAMPUS

The campus of Des Moines University is situated on one of the two highest elevations of the city, the State House standing upon the other. It is within walking distance of Union Park, Frase Park, and the Des Moines River, and is connected with the business district by ample street car accommodations. The campus itself consists of about twenty-five acres of ground, the spaces not occupied by buildings being covered with beautiful lawn and shapely trees. Two rows of over-arching hard maples lining the walk leading to the administration building greatly add to the beauty of the spacious front quadrangle.

BUILDINGS

The nine buildings of Des Moines University are commodious and substantially built and, with little expense, will harmonize with the Gothic style of architecture which has been adopted by the Board of Trustees for the greater Des Moines University.

The Administration Building contains the general offices, the chapel, most of the class rooms of the College of Liberal Arts, the biological laboratory, the drawing and painting studio, the Extension Division, and the literary society halls. The dining hall is in the basement. The Chapel is well ventilated, seated with opera chairs, equipped with moving picture machine, and has a large stage suitable for concerts and plays. It seats about a thousand people.

Science Hall, at the southeast corner of the campus, is a substantial building, five stories high, and provides accommodations for the School of Fine Arts, on the first floor; and, on the other floors, the Commercial School, the library, the science class rooms, and the physics, chemistry, and pharmacy laboratories.

The Engineering Shops are convenient and well equipped. They consist of a power plant, foundry, forge room, machine shops, manual training and pattern making equipment, automobile and electrical laboratories, a garage, and the laboratory of the State Highway Commission.

Eleanor Childs Hall, a dormitory for women, the gift of Mrs. Eleanor Dix Childs, of Waterloo, is a beautiful building of modern reinforced concrete construction and fully fireproof. It is four stories high, with three-quarter basement. Roomy and attractive parlors for the dormitory household occupy the north end of the building on the first floor, and there are smaller parlors on each of the other floors. Each living room, with accommodations for two, is furnished with two single beds, study table, dresser, chairs, window shades, rugs and a large wardrobe, and is equipped with water, steam heat, and electric light. The class rooms and laboratories of the Home Economics Department are in the basement of this building.

Johnson Hall is a dormitory for men. Its reorganization was made possible by the generous gift of Mr. and Mrs. A. B. Johnson, of Truro. It is a large four story brick building, with rooms for a hundred students. It accommodates two students in each room, with two single beds and other necessary articles of furniture. A parlor and club rooms provide facilities for the social life of the men.

The Gymnasium, situated on the southeast corner of the campus, has floor space one hundred feet long by forty feet wide, and has seats to accommodate several hundred people.

Three large cottages adjoin the campus on the north, and are used as fraternity houses.

The power plant is centrally located and equipped with three 150 horse power boilers and a large electric dynamo which generates electricity for the entire campus. All the buildings are heated with steam from this central plant.

LABORATORIES

The laboratories for work in Physics, Biology, Chemistry, and Pharmacy are equipped with the necessary apparatus for modern scientific study, so that students especially interested in the natural sciences may have adequate opportunities along that line in connection with their college course.

LIBRARY

The library, located on the third floor of Science Hall, contains about twenty thousand volumes, in addition to departmental libraries and special collections. The books have been chosen with special reference to the lines of study offered by the University and contain good working collections in History, Social Science, Literature, Domestic Science and Art, Natural Science, Engineering, and Agriculture. Current periodicals and newspapers are regularly received, and the serial publications of Universities, Societies, State and Federal Governments are on file for the use of students.

The University recognizes that experience in the use of books and periodicals is an essential part of college training, and, in the various courses, the student is constantly referred to books which are recommended or required to be read. The librarian and competent assist-

ants render students every aid in the use of library material. Lectures on the use of the library are given to members of the Freshman class early in the year. Other lectures are given from time to time to various groups on the literature of special subjects.

The University is indebted to many persons and institutions for valuable gifts of books and money, including the private library of the late O. H. Longwell, for twenty-three years president of Highland Park College, and of Judge L. B. Hibbard, former curator of Des Moines College library.

PUBLICATIONS

The official publication for which the University authorities are directly responsible is the Des Moines University Bulletin, which is published monthly and contains such official announcements and information as are of interest to the large constituency of the University.

The Highlander is a weekly newspaper edited and published by representatives of the Students Association and reports the current college news of special interest to the student body.

Each year the students publish a University Annual called The Tiger, devoted to the facts and fancies of University life.

RELIGIOUS LIFE

The experiences of the past have demonstrated beyond question that only when intellectual and religious culture complement and reinforce each other is the highest development attained. It is the aim of the University to create and maintain a wholesome Christian atmosphere. To this end a regular college department of Biblical Literature and Religious Life has been established, in charge of a capable instructor and director.

Attendance at Chapel is required of all college students twice a week, and the service aims to minister directly to the strengthening of religious life.

A students' prayer meeting is held each week. This is well attended and for years has been a source of great inspiration and power in the school.

The following student organizations are influential factors in the religious life of the University, and their work is fostered and encouraged:

- The Young Men's Christian Association
- The Young Women's Christian Association
- The Student Volunteer Band
- The Life Service League
- The Ministerial Association
- Gospel Teams and Deputation Groups.

It is expected that students will attend the church of their choice on Sunday mornings. This should be a privilege as well as a duty. A cordial welcome will be received at any of these places of worship.

The University Baptist Church has been organized, and students are invited with the utmost cordiality to attend this Church and engage in its services of song and worship.

The University Vesper Service is held each Sunday afternoon, with helpful sermons and a large chorus of students.

STUDENT ORGANIZATIONS

The Literary Societies maintain a high grade of literary work in essay writing, debating, public speaking, and impromptu address. Members develop a facility in parliamentary procedure and committee organization. Membership is open to all University students.

The Engineering Society is the technical organization of the University. Prominent engineers frequently give practical lectures and papers before this body. Many special departmental activities are carried on through the society.

The University Players is a dramatic organization of the University, closely articulated with the Departments of English and Public Speaking. Membership is determined by competitive examinations. The Doublet and Hose is the advanced dramatic club. Its members are selected from the University Players. Only those who have excelled in some branch of theatrical art are admitted.

The French Club is organized for practice in speaking French. Regular meetings are held, consisting of a literary program and parliamentary practice, all of which is in French. Membership is open to all students in the French department and to members of the faculty.

The University Men's Club is an organization of men of the University for sociability and fellowship. The club rooms are in the basement of Johnson Hall.

To those musically inclined some of the most delightful events in University life are to be found in the activities of the musical organizations. There are glee clubs for women's voices and for men's voices. A University band and a University orchestra are maintained under the leadership of competent directors. Students interested in band and orchestra music are advised to bring their instruments.

For the purpose of self government and the unifying of the various student enterprises and activities, the students of Des Moines University are organized as a Students Association. The membership includes the entire student body. The Association assumes organized responsibility in the life and conduct of its members, and aims to promote a feeling of unity, loyalty and fellowship among the students of the University, to make and maintain worthy social ideals and standards, and to regulate matters affecting the interests of the student body that do not fall under the immediate jurisdiction of the faculty or trustees. The Students Association elects an executive body, known as the Student Council, representing the several departments of the University. A special student fee of \$5.00 per quarter is paid by each student to meet the cost of their activities.

THE CHORUS

The University Chorus is open to students and other friends of the University. Work consists principally of the study and rendition of the masterpieces of choral music, including oratorio and other forms, both sacred and secular. Standard operas are given in full stage form. The opportunity is offered students who are sufficiently advanced to do quartet and semi-chorus work.

THE CHOIR

The University Choir is organized and conducted in close affiliation with the Chorus. The Choir sings each Sunday at the University services. Only the best church music is studied and rendered by this body.

THE ORCHESTRA AND THE BAND

The University Orchestra affords students and townspeople opportunity to study and perform the standard overtures, the lighter symphonies, and other forms of concert music.

The Band makes frequent appearances at games, "pep" meetings, concerts, and other appropriate occasions. Attractive uniforms, designed in the University colors, are worn by the members at all important appearances.

ATHLETICS

Believing that the development of the body is an important factor in education, the University requires physical training of all college students during the Freshmen and Sophomore years. Classes are arranged for both men and women, and competent instructors and coaches are provided. Students who prefer to engage in athletics and sports, and who are qualified to do so, may count these as required physical training for the quarters in which they participate, and they will receive physical training credit therefor.

The athletic field is a five-acre tract of ground near the campus. It has cinder track with a quarter-mile course, and contains baseball diamond, football gridiron, and facilities for track sports. Seats for the accommodation of spectators occupy the west side of the field. Tennis courts are located on the University campus.

DEBATING AND PUBLIC SPEAKING

Debating and public speaking are encouraged as essential part of a liberal education. In these days, practically every educated man and woman is called upon to assume leadership that requires the presentation of public matters to larger or smaller groups of people. Practice in public speaking and in thinking while upon one's feet should therefore be acquired. The University provides adequate instruction to this end, and debating teams and public speaking activities are organized for intramural practice and to contest for forensic honors with other colleges.

FACILITIES FOR SELF HELP

Des Moines, owing to its size and the variety of its activities, offers exceptional opportunities for self help both to young men and young women. It is estimated that seventy-five per cent of the students of Des Moines University have earned all or part of their expenses in recent years. The University is prepared to assist students in finding remunerative employment. The amount which a student may earn in the University depends however, entirely upon his or her own initiative and ability and time. No student with determination and energy need have any hesitation in undertaking a full course at Des Moines University.

It should be borne in mind, however, that a full class schedule in the University, with the necessary preparation, is planned to occupy all of a student's time. Any student who does an excessive amount of outside work in addition to a full University schedule, sacrifices scholarship or health or both. If he finds it necessary to do more than three hours outside work a day, he should register for fewer hours in school and take a longer time for the completion of his course. This can be done by attending one or more summer quarters.

SCHOLARSHIPS AND FELLOWSHIPS

Three classes of Scholarships are offered by Des Moines University: Honor Scholarships, Church Endowment Scholarships, and Individual Endowment Scholarships. A full scholarship in any of these classes covers the tuition in the regular collegiate courses, but in no case includes the incidental, athletic, or other fees and deposits.

The student graduating with highest rank from any approved High School in Iowa is entitled to an Honor Scholarship covering tuition for one year.

The Edson DeWitt St. Clair Scholarship was established by Mr. and Mrs. A. D. St. Clair in memory of their son, Edson DeWitt St. Clair.

The Andrew Merrin Greek Scholarships, established by his daughter, Mrs. H. E. Worthington, of Cumberland, Iowa, are available for the two ministerial students who maintain the highest rank in first and second year Greek.

Ordained ministers, ministers in active service, and children of ordained ministers are granted half-scholarships, giving half-rates on regular college tuition.

Honor Scholarships.—Six scholarships have been established as follows: two for Sophomores, two for Juniors, and two for Seniors, each carrying a valuation of one-half tuition; these to be equally divided between men and women, and to be known respectively as Sophomore Honor Scholarships, Junior Honor Scholarships, and Senior Honor Scholarships. Nominations for these scholarships are made by a committee of the Faculty, who take into account all-round character and ability, grades maintained, and probable future achievements. Names of students receiving these scholarships for the current year are indicated in the Roster of Students at the end of the catalogue.

Rhodes Scholarship.—College men, members of the Junior or Senior class, unmarried, and between the ages of nineteen and twenty-four, are eligible to compete for the Iowa Rhodes Scholarship. The scholarships entitle the successful candidate to a three year's residence course at Oxford University, England. The examination includes the following subjects: arithmetic, elementary algebra or elementary geometry, Latin grammar, English-Latin translation, one Latin book from such authors as Caesar, Cicero, Livy, Horace, and Virgil. Other than scholastic tests are also required, concerning which inquiry should be made.

Every holder of a scholarship may be called upon to render the University some service. Such service may or may not receive compensation. No scholarships are given to students for any quarter who were conditioned in any subject the preceding quarter; and scholarship students are expected to maintain an average grade of not less than 85. A scholarship withdrawn because of failure for any reason may be restored after the lapse of two quarters providing the student is approved by the faculty. In awarding scholarships, preference is given to regular candidates for a degree, who expect to finish their course in Des Moines University.

In order to foster the community life of the University the holder of a full or partial scholarship will be required to room in a University dormitory and board in the University dining hall. The same conditions prevail in the use of student loan funds fostered by the University.

STUDENT LOAN FUND

The Elizabeth Hold Hutchinson Student Loan Fund, established by Mrs. Elizabeth S. Hutchinson, Lake City, Iowa, yielding a limited amount, may be loaned to women students on the recommendation of the president of the University.

The Glad Hand Loan Fund was established by a minister of the gospel who desires his name withheld. This fund is available to ministerial students or members of the Life Service League. The loan is made especially attractive to Baptist students who go as foreign missionaries.

STUDENT AID

It is the aim of the Board of Trustees of Des Moines University to assist all worthy young people who are determined to secure a college education. Therefore, preference is given to students, in the necessary

work to be done about the University buildings and grounds, at a fair compensation. On their side, however, students so employed are expected to render as efficient service as the University can secure elsewhere.

WHAT TO DO UPON ARRIVAL IN DES MOINES

Upon arrival at either west side station, walk to Sixth Avenue and take a Highland Park car or a Belt Line car, and go to the end of the line. Arriving at the east side or Interurban station, take any car going west and transfer to a Highland Park or a Belt Line car.

Come to the Administration Building (the one with the tower). Bring your trunk check to the general office and arrangements will be made to have your trunk delivered. Do not give your trunk checks to strangers.

Baggage.—Every piece of baggage should contain a label or tag giving owner's name, Des Moines, Iowa, care Des Moines University, Highland Park. It is especially urged that every precaution be taken to prevent baggage being needlessly lost. If for any reason baggage does not arrive at a junction at the same time as the passenger, and it is necessary to recheck it at that place, or to arrange for its transfer, make all arrangements with the station agent, taking the number and description of the baggage check surrendered so that the baggage can be more quickly traced should it not be forwarded promptly. Always preserve the number of the baggage check and the name of the railroad or transfer line.

GENERAL REGULATIONS

GOVERNMENT

The purpose of government in Des Moines University is two-fold: (1) to further the interests of study and scholarship, for which, primarily, the students are in attendance; and (2) to assist the students in discovering and fulfilling their relations and obligations in society, in the broad sense of that term.

In other words, the students and faculty of Des Moines University constitute a community seeking Christian education. All of the governmental purposes and regulations grow out of this situation. They are, therefore, not arbitrary, but are inherent in the nature and needs of the community itself.

Students are expected voluntarily to recognize and fulfill the obligations naturally belonging to such a Christian College community and to educated young men and women in society. The University traditions and regulations are intended as an aid to this end and not as representing a complete guide for student conduct. In order to assist students in adjusting themselves to University ideals and customs as quickly as possible, lectures are given one hour a week throughout the autumn quarter of the Freshman year which all first-year students are required to attend.

Certain definite regulations are necessary. These are made by one or more of the three governing bodies of the University,—the Board of Trustees, the Faculty, or the Students Association, according to the nature of the case. Some of the most important of these regulations are the following:

Students are required to attend their stated class exercises and to make the necessary preparation therefor. Two hours of preparation should be given for each class exercise.

Students are required to attend the University Assembly, which, at the present time, meets twice a week.

Social functions should be limited to Friday evening and Saturday, leaving Sunday for religious life and worship, and the balance of the week for study.

Social functions and entertainments are to be held with the approval of the Board of Social Affairs, whose consent is to be secured in each case in advance.

Student publications are under the supervision of the Board of Publications, to which material will be submitted as may be requested.

No student may engage in inter-collegiate athletics, debating, or other contest, or in student activities involving honor points, who is not of full college rank and maintaining a passing grade in at least 12 hours of college work, exclusive of required physical training; or who failed to pass in at least 12 hours, exclusive of required physical training, during the last quarter when he was in residence.

All women students in all departments of the University, not residing in Des Moines, are required to room in the women's dormitory and to board in the University dining hall, unless excused by the Chancellor in consultation with parents or guardians. All women students, whether living in the dormitory or not, are subject to the University regulations for women and are under the jurisdiction of the Dean of Women.

Dancing is not permitted at college functions, nor by college groups, either on or off the campus. Young women may not attend public dances at all, and may not attend private dances except upon the written request of parents or guardians filed with the Dean of Women.

Gambling and drinking are absolutely prohibited, and any student known to engage in these practices, either on or off the campus, will be dismissed from the University.

Smoking is not permitted on the campus or about the college buildings in general.

Hazing is not permitted in any form.

Suspension or expulsion from the University involves the severing of all relations with University life on the part of the student during the period when he is under discipline. He may not attend University classes or functions, live in a University dormitory or fraternity house, or retain active membership in any University society or fraternity.

Enrollment in the University, and securing of degrees, are privileges, not rights. Students are expected to observe in good spirit all of the customs and regulations pertaining to college work and life, whether specifically expressed in this catalogue or not. Only upon these conditions are the advantages of the University offered. Other students are not desired, and may be dismissed by the faculty from the University community. In case this is done, the tuition and fees for the quarter are not refunded or remitted.

The University reserves the right to amend its regulations governing degrees, courses, and student conduct whenever, in its judgment, it is wise to do so.

THE UNIVERSITY YEAR

The University school year is divided into four quarters of approximately twelve weeks each, known as the autumn quarter, the winter quarter, the spring quarter, and the summer quarter or summer school. Students may therefore complete their college course in three years by attending four quarters each year.

REGISTRATION

Certain days at the beginning and end of quarters are designated as registration days. Students are expected to register on these days, and will be admitted to classes only upon the completion of their registration. The payment in advance of all the quarter's bills is considered a part of registration. A fee of two dollars (\$2.00) will be charged students who fail to register on the days officially appointed for that purpose, except in the case of new students excused for cause. But no student may register in regular college courses after the first week of the quarter except by the consent of the Dean and instructors involved.

Students may not register for extra hours except by permission of the Committee on Courses and Classification, based upon a high average grade for the preceding quarter. Students registering for more than the maximum number of credit hours will be charged an extra fee at the rate of \$2.50 per credit hour.

CREDITS, HOURS, AND GRADES

Credits given for work are term-credits, a credit representing class work for one hour a week throughout a quarter, or the equivalent in laboratory work, two or three hours of laboratory counting as one hour of class work. An hour, in university usage and in this catalogue, is interpreted as meaning a class period of fifty minutes. The notation

in connection with laboratory courses, "Lects., 3; labs., 2, 3 hrs." signifies 3 lectures per week and 2 laboratory periods of 3 school hours each.

Term grades are indicated by letters, as follows: A, 93-100; B, 85-92; C, 77-84; D, 70-76 (passing); E, 60-69 (condition); F, below 60 (failure).

MINIMUM HOURS TO MAKE

Freshmen must pass in one-half of their registered hours, and upper classmen in ten hours, or they are automatically dropped from school for the succeeding quarter, unless reinstated by the Committee on Courses and Classification or by the Faculty. When so dropped, the student is required to sever all relations with University life for the quarter involved.

DEGREES AND DIPLOMAS

The degree of Bachelor of Arts or of Bachelor of Science is conferred upon those who complete in a satisfactory manner the required number of term hours and honor points in the Colleges of Liberal Arts, Education, and Engineering. For details of the requirements, see under the several Colleges. The time required for graduation is four years of three quarters each, or three years of four quarters each in case a student attends the summer school. At least one year, and this the Senior year, must be spent in residence at the University (except in the combination courses with Medicine and with Law.)

The degree of Graduate of Pharmacy or of Pharmaceutical Chemistry is conferred upon graduates of the College of Pharmacy.

The degree of Bachelor of Music is conferred upon graduates of the Conservatory of Music.

A diploma is granted to those who complete any of the two-year courses herein described.

A certificate is granted to those who complete 48 weeks of satisfactory work in vocational short courses.

Honor points are required for graduation, as follows:

1. The number of honor points required for graduation shall equal the number of credit hours required in every case.
2. The maximum number of honor points allowed shall equal twice the number of honor points required in every case.
3. No student shall obtain honor points by participation in extra-curriculum activities until his honor points acquired for scholarship shall equal his credit hours then required; that is, the student must average a grade of C on all his work taken up to the date of participation in such activities.
4. Honor points may be acquired by participation in extra-curriculum activities only upon the recommendation of and approval of the faculty committee having supervision over such activities.
5. For scholarship, a grade of A shall carry two honor points for each credit hour; a grade of B, one and one half honor points for each credit hour; a grade of C, one honor point for each credit hour; a grade of D, one half honor point for each credit hour; a grade of E shall carry no honor points; and a grade of F shall carry minus one honor point for each credit hour.
6. Honor points shall also be awarded for participation in extra-curriculum activities according to a schedule fixed by the faculty.

CLASSIFICATION AND CONDITIONS

All entrance conditions must be removed during the first year in college; and all required work for any given college year must be

completed before a student will be advanced more than one class in rank.

No student should register for subjects more than one year removed from his official classification; e. g., a Sophomore should not register for Senior subjects. A Junior or Senior may not register for Freshman subjects and receive full credit for them.

A student who enters the University without conditions, or conditioned in only one unit (that is, who offers not less than 14 units for admission), will be ranked as Freshman. Upper classmen will be ranked as Sophomores, Juniors, or Seniors, according to their college credits, no student ranking with a class if he is more than one quarter behind it in his credits.

DAILY PROGRAM

| AFTERNOON | | AFTERNOON | |
|----------------------------------|-------------|-------------------------|------------|
| First Period | 7:45- 8:35 | First Period | 1:15-2:05 |
| Second Period | 8:40- 9:30 | Second Period | 2:10-3:00 |
| Third Period | 9:35-10:25 | Third Period | 3:05-3:55 |
| Fourth Period | 10:30-11:20 | Laboratory Period | 1:15-3:55 |
| Fifth Period | 11:25-12:15 | | |
| Laboratory Period, Saturday..... | | | 8:00-11:00 |

BOARD

A good cafeteria is maintained in the basement of the administration building. This is open to all students, faculty, and University employees. The lowest prices prevail, consistent with good food. Cash coupon books are used and students pay for what they order.

ROOM RENT

The rate for rooms in the dormitories varies according to location and size as follows:

Childs Hall:

| | |
|------------------------|----------------------------------|
| 1st and 2nd floor..... | \$2.50 per week for each student |
| 3rd floor | 2.00 per week for each student |
| 4th floor | 1.50 per week for each student |

Johnson Hall:

| | |
|-----------------|----------------------------------|
| All rooms | \$2.00 per week for each student |
|-----------------|----------------------------------|

The above rates are for two in a room and are doubled for those desiring to room alone. Rooms are steam heated, lighted with electricity, and completely furnished with the exception of pillow, bed covering, and linen. Rooms should be reserved in advance before the beginning of each quarter. This can be done by depositing a retaining fee of \$10.00 which will be applied on room rental at the time of registration. A room deposit of \$5.00 is also required, to cover breakage and damage, which will be refunded if not needed to cover damage. The choice of rooms is made as follows: after the occupant, who has the first choice of a room, come Seniors, Juniors and Sophomores, in the order named. Rooms are assigned to incoming Freshmen in the order of their application.

TUITION AND FEES

It is the constant endeavor of the University management to keep the expenses to the student as low as possible consistent with good service. All extravagant tendencies are discouraged on the part of the student body and of all persons connected with the University.

Tuition, fees, and incidentals are payable each quarter in advance. Failure of a student to settle his account at the time agreed upon may cancel his registration, cause suspension from classes, or defer his credit. A degree, diploma, transcript of credits, or honorable dismissal will not be granted until the University bills have been paid in full.

In the science courses reasonable laboratory fees are charged to cover use of materials and supplies. A deposit is also required to cover breakage and destruction. The portion of this deposit not chargeable against the student will be returned at the end of the quarter.

CLASSIFIED SCHEDULE OF TUITION, FEES, AND DEPOSITS, PER QUARTER

| | |
|--|---------|
| Tuition for all collegiate courses, unless otherwise stated, per quarter | \$50.00 |
| Engineering courses (collegiate) | 60.00 |
| Vocational courses, unless otherwise stated..... | 75.00 |
| Automotive Engineering and kindred courses..... | 85.00 |

(For tuition in the School of Fine Arts, see under that school.)

The tuition for five hours or less of class work is one-half the regular tuition fee; for from six to ten hours, three-fourths of the regular tuition fee; for more than ten hours, the regular rates prevail. Special fees and deposits are payable in the same ratio.

No refund of money paid the University for rooms, tuition and fees is made to those leaving before the end of the quarter. In special cases involving severe illness or for other causes over which the student has no control, an extension of time for the unused portion may be granted.

SPECIAL FEES

| | |
|--|-------|
| For Late Registration (not required of new students if excused)\$ | 2.00 |
| For Degree and Diploma..... | 10.00 |
| For Diploma (Two-Year Course)..... | 5.00 |
| For Certificate (Academy Short Course)..... | 2.50 |
| Room Deposit (returnable) | 5.00 |
| Private Locker Fee, per quarter..... | 2.00 |
| Matriculation—Pharmacy | 5.00 |
| Recording Fee (extended payment privilege) per quarter..... | 5.00 |
| Administration Fee (Half Scholarship Students) per quarter.... | 5.00 |
| Administration Fee (Full Scholarship Students) per quarter.... | 10.00 |
| Student Fee, per quarter (see page 20)..... | 5.00 |
| Excess Registration Fee—per credit hour..... | 2.50 |
| Special Examination (unexcused absence)..... | 1.00 |
| Special Examination (to remove condition)..... | 2.00 |
| Special Examination (for credit) charge based on number of credit hours. | |

LABORATORY FEES, PER QUARTER

| | |
|--|---------|
| Agriculture | \$ 3.00 |
| Biology— | |
| Human Physiology | 1.00 |
| All other Biology courses, each..... | 3.00 |
| Chemistry— | |
| Courses 12 and 10 ^e | 5.00 |
| Course 16 | 1.75 |
| All other Chemistry courses, each..... | 3.50 |
| Drawing | 1.50 |

| | |
|--|-------|
| Engineering— | |
| Laboratory or Field Work..... | 3.50 |
| Shop Courses | 5.00 |
| Manual Arts Shop Courses..... | 5.00 |
| Manual Arts Craft Courses..... | 5.00 |
| Manual Arts Modeling Courses..... | 3.50 |
| Manual Arts Elementary Construction..... | 3.50 |
| Home Economics— | |
| Cooking | 7.50 |
| Millinery | 4.50 |
| Sewing | 4.50 |
| Dietetics | 10.00 |
| Planning and Serving Meals..... | 10.00 |
| Pharmacy | 3.50 |
| Physics | 3.50 |
| Primary Education— | |
| Primary Education Ic..... | 1.50 |
| Primary Education II—Teaching..... | 1.50 |
| Radio | 4.00 |

LABORATORY DEPOSITS

| | |
|--|---------|
| Agriculture | \$ 1.00 |
| Biology— | |
| Human Physiology | 1.00 |
| All other Biology courses, each..... | 3.00 |
| Chemistry— | |
| Course 16 | 2.00 |
| All other Chemistry courses, each..... | 4.00 |
| Engineering— | |
| M. E. Laboratory courses 18, 19, 20, 21..... | 2.00 |
| E. E. Laboratory courses 8a, 8b, 8c..... | 2.00 |
| Pharmacy | 3.50 |
| Physics | 3.50 |
| Radio | 5.00 |
| Shop Courses | 5.00 |

ADMISSION TO THE UNIVERSITY

Students applying for admission to the University must offer satisfactory evidence of good moral character, and those coming from other colleges and universities must present credentials of honorable dismissal.

In general, any such student who has completed a four-year course in an approved high school or academy, with not less than 15 units of credit, or who has done an equivalent amount of preparatory work elsewhere, will be admitted to the University. A unit represents a study satisfactorily pursued for a school year of 36 weeks on the basis of 5 recitation periods per week of not less than 40 minutes each (a laboratory period being twice this length), the course requiring not more than 4 studies, or 20 recitation periods, per week.

The admission of high school graduates to the University, however, does not affect the terms upon which they may graduate from the various colleges or schools of the University. If students are deficient in the specific preparatory requirements for these courses, they must proceed at once to remove the deficiency, without college credit, as a part of, not in addition to, the regularly allowed schedule hours. This may be done in the University Institute, or, in some cases, in appropriate Freshman courses on the basis of 9 or 10 quarter hours for each secondary unit.

METHODS OF ADMISSION

The requirements for admission may be fulfilled in any of the following ways:

1. By presenting a certificate of graduation from any approved four-year high school or academy, signed by the Superintendent or Principal, showing the completion of at least 15 units of preparatory work. The 15 units may consist of credit in any subjects which are certified as accepted by the high school authorities toward graduation. In this case no examination is required for admission.

2. If the applicant is not a graduate of an approved four-year high school or academy, he must present as many as 14 acceptable units by certificate or by examination, or both. The certificate must be accompanied by a statement from the Principal that the student is in good standing in the school and presumably able to pursue college work successfully. Such applicant will be conditioned in whatever is lacking to bring his entrance credits up to 15 units, and these conditions must be removed within one year from date of admission.

3. Entrance credits will be allowed for teachers' certificates as follows:

On a first grade uniform county certificate, in specific subjects marked 85 or above, 5 units.

On a state certificate, gained by examination, in specific subjects: Second grade, 10½ units; first grade, 14 units; life diploma, 16 units.

4. Any student whose case is not covered by the foregoing provisions, will be admitted upon passing entrance examinations at the University on the subjects covered in a four-year high school course and giving satisfactory evidence that he has devoted sufficient time to preparation.

5. Mature students, twenty-one years of age or over, not candidates for a degree, may be admitted as unclassified students upon satisfactory evidence that they are qualified to pursue profitably the subjects for which they wish to register, and upon showing sufficient reason why they should not enroll for a regular course.

ADMISSION PROCEDURE

Candidates for admission to Des Moines University must furnish the following credentials:

1. A formal application sent in advance or made out upon registration. It will save time and inconvenience to send the application in as early as possible, accompanied by room reservation.
2. A statement concerning character and ability.
3. A certificate of health, signed by a physician.
4. A statement of high school credits.

Blanks for the first three above may be obtained upon application to the University. For number four, the credentials should be secured from the high school authorities in the candidate's school.

Examination must be taken at the University in such entrance subjects as are not covered by the high school work, or other provision must be made for removing any conditions.

Registration and Classification should be completed at the University on the days designated for that purpose.

ADVANCED STANDING

Students who bring credentials of honorable dismissal and certificates of credit from other standard colleges and universities are ordinarily admitted to equal rank, provided they enter not later than the beginning of the Senior year.

High school work will be given credit for advanced standing only in case there is an excess of 16 units and a rigid examination is passed at the University based on corresponding college courses.

SUBJECTS REQUIRED OR ACCEPTED FOR ADMISSION

It should be particularly noted that entrance requirements to specific Colleges or Courses in the University must be fulfilled in addition to the general requirements for admission. These specific requirements are indicated in this catalogue in the statements concerning the several Colleges. The required and elective subjects for admission are taken from the following list, in which the minimum and maximum credits allowed are stated in terms of units:

1. FOREIGN LANGUAGE (not more than 4 units in any one foreign language, including the required 2 units above mentioned):

| | |
|--------------------|--------------|
| Greek | 1 to 4 units |
| Latin | 1 to 4 units |
| French | 1 to 4 units |
| Spanish | 1 to 4 units |
| German | 1 to 4 units |
| Scandinavian | 1 to 4 units |

2. ENGLISH (not more than 4 units, including the required 3 units).

3. HISTORY—CIVICS—ECONOMICS (not more than 4 units, including the required unit):

| | |
|---|-------------------------|
| Ancient history..... | $\frac{1}{2}$ to 1 unit |
| Medieval and modern history..... | $\frac{1}{2}$ to 1 unit |
| English history..... | $\frac{1}{2}$ to 1 unit |
| U. S. history (only if taken within the latter half of the high school course)..... | $\frac{1}{2}$ to 1 unit |
| General history (but not in addition to ancient, medieval, and modern history)..... | 1 unit |
| Civil government..... | $\frac{1}{2}$ to 1 unit |
| Political economy..... | $\frac{1}{2}$ unit |
| Sociology | $\frac{1}{2}$ unit |

4. MATHEMATICS (not more than 4 units, including the required 2 units):

| | |
|--|-------------------------|
| Algebra | 1 unit |
| Plane geometry..... | 1 unit |
| Solid geometry | $\frac{1}{2}$ unit |
| Plane trigonometry | $\frac{1}{2}$ unit |
| Advanced algebra (the fourth half unit only when taken in the fourth year, and only when including variations, arithmetical and geometrical progressions, binominal theorem for positive and negative exponents, with review of third semester's work) | $\frac{1}{2}$ to 1 unit |

5. SCIENCE (not more than $4\frac{1}{2}$ units):

| | |
|---|-------------------------|
| Physics, not less than..... | 1 unit |
| Chemistry, not less than..... | 1 unit |
| Physical geography or physiography..... | $\frac{1}{2}$ to 1 unit |
| Botany | $\frac{1}{2}$ to 1 unit |
| Zoology | $\frac{1}{2}$ to 1 unit |
| Physiology | $\frac{1}{2}$ unit |
| Geology | $\frac{1}{2}$ unit |
| Astronomy | $\frac{1}{2}$ unit |
| Agriculture (as science) | $\frac{1}{2}$ to 1 unit |
| General science..... | $\frac{1}{2}$ to 1 unit |

6. COMMERCIAL, INDUSTRIAL AND MISCELLANEOUS SUBJECTS (not more than 4 units):

| | |
|--|--------------------------|
| Advanced, or commercial, arithmetic (only if taken after the completion of $1\frac{1}{2}$ units in algebra, or in the latter half of the high school course) | $\frac{1}{2}$ unit |
| Double entry bookkeeping..... | $\frac{1}{2}$ to 1 unit |
| Advanced bookkeeping | $\frac{1}{2}$ to 1 unit |
| Commercial geography | $\frac{1}{2}$ unit |
| Commercial law | $\frac{1}{2}$ unit |
| Industrial history..... | $\frac{1}{2}$ to 1 unit |
| History of commerce..... | $\frac{1}{2}$ unit |
| Stenography | $\frac{1}{2}$ to 2 units |
| Telegraphy | $\frac{1}{2}$ to 2 units |
| Freehand or mechanical drawing..... | $\frac{1}{2}$ to 2 units |
| Manual training, i. e., shop work..... | $\frac{1}{2}$ to 2 units |
| Domestic science..... | $\frac{1}{2}$ to 2 units |
| Psychology | $\frac{1}{2}$ to 1 unit |
| Pedagogy | $\frac{1}{2}$ to 1 unit |
| Bible | $\frac{1}{2}$ to 1 unit |
| Music (only when taken as a full subject with daily class periods, with the usual daily periods of study)..... | $\frac{1}{2}$ to 2 units |
| Public Speaking (not in addition to 4 units in English) | $\frac{1}{2}$ unit |

NOTE: Credit is not given, except upon the passing of the regular entrance examinations, for English grammar and United States history when these subjects are given in the ninth or tenth grade; nor for arithmetic unless this subject is given *after the completion* of three semesters of work in algebra, or in the latter half of the high school course.

THE COLLEGE OF LIBERAL ARTS

REQUIREMENTS FOR ADMISSION

For requirements for admission to the University in general, see pages 31 and 32.

For unconditional admission to the College of Liberal Arts, the student must present preparatory work to the extent of 15 units, as follows:

Required:

| | |
|-------------------------|---------|
| English | 3 units |
| *Foreign language | 2 units |
| Mathematics— | |
| Algebra | 1 unit |
| Plane geometry | 1 unit |
| History | 1 unit |
| Science | 1 unit |

Elective:

Six units from the list found on pages 31 and 32, at least two units of which shall be from the five principal groups: English, foreign language, mathematics, natural sciences, and the history-civics-economics group.

Not less than one unit will be accepted in physics, chemistry, or any foreign language, and at least two years in one foreign language is advised.

Not less than one-half unit will be accepted in any subject (or one-third unit in the case of secondary schools whose year is divided into three terms of twelve weeks each).

While a student is admitted to the College upon the completion of 15 acceptable units from the list, he is strongly advised to take in high school the subjects indicated above as required, since otherwise it will be necessary for him to add these to his college requirements, thus diminishing the number of free electives which he may take in college; for example, if no foreign language, or only one year, is offered for admission, three years of foreign language instead of two will be required in college.

A student may be admitted to the College conditionally with only 14 units of preparatory work; but such entrance conditions must be removed during the first year in College.

REQUIREMENTS FOR GRADUATION

Two degrees are granted in the College of Liberal Arts, Bachelor of Arts and Bachelor of Science; the choice depending chiefly upon the amount of work in foreign language and in mathematics and science taken by the student. Either degree is granted upon the successful completion of 186 term-hours of work, including 6 hours of required physical training, together with an equal number of honor points.

*See Note 2, page 34.

The courses in the College of Liberal Arts are divided into the following groups:

- Group I. Language and Literature.
- Group II. Mathematics and Natural Science.
- Group III. Philosophy, Social Science, and Religion.

For the A. B. degree, the major and minor may be chosen from any of these groups, but both may not be chosen from Group II.

For the B. S. degree, the major will be chosen from Group II, and a year of mathematics or science may be substituted for one year of college foreign language.

In order to give unity to the student's course, a major subject and a related minor subject will be selected by him not later than the beginning of his Junior year, and he will complete before his graduation a total of not less than 30 hours for the major and 15 hours for the minor. The number of hours required for a major in the several departments is indicated under the description of the departmental courses if it varies from 30.

BACHELOR OF ARTS

On the basis of the admission requirements listed above, the required and elective work for the Bachelor of Arts degree is indicated by the following schedule:

| | | |
|--|----------|---------------|
| English ¹ | 11 | hours |
| English or Public Speaking..... | 4 | " |
| Foreign Language ² | 18-24 | " (two years) |
| Mathematics or Science..... | 12-15 | " |
| History | 9 | " |
| Social Science..... | 13 | " |
| Philosophy and Psychology..... | 10 | " |
| Biblical Literature ³ | 6 | " |
| Physical Education | 6 | " |
| <hr/> | | |
| Total required | 89 to 98 | hours |
| Major Elective ⁴ | 30 | hours |
| Minor Elective ⁴ | 15 | " |
| Free Electives | 52 to 43 | hours |
| <hr/> | | |
| Total for Graduation..... | 186 | hours |

¹The faculty may require any student deficient in oral or written English to take a special course to remove his deficiency before graduation.

²The number of hours of foreign language depends upon whether beginning language is taken, which is five hours a week, or continuation language, three hours a week. Two years of foreign language are required, following two years for admission. If no foreign language, or only one year, is offered for admission, three years will be required in college. The total requirement is four years in high school and college combined; provided, (1) that at least one year shall be taken in college unless the student has had five years or more in high school, and (2) that if all the foreign language is taken in college three years shall fulfill the requirement. It is recommended that not less than two years be taken in any one language.

³Unless excused by the committee on courses and classification.

⁴In some departments the required work listed above, or part of it, may count toward the major or minor, increasing the number of free electives to that extent. See under the several departments.

MANIFEST OF WORK BY YEARS

FRESHMAN

| | Total | Autumn | Winter | Spring |
|-------------------------------------|----------|----------|----------|----------|
| English | 9 | 3 | 3 | 3 |
| Foreign Language ¹ | 9-15 | 3 or 5 | 3 or 5 | 3 or 5 |
| History ² | 9 | 3 | 3 | 3 |
| Phys. Ed. & Fresh. Lectures..... | 3 | 1 | 1 | 1 |
| Electives | 6-0 | 2 or 0 | 2 or 0 | 2 or 0 |
| | <hr/> 48 | <hr/> 16 | <hr/> 16 | <hr/> 16 |

SOPHOMORE

| | | | | |
|--|----------|----------|----------|----------|
| English and Public Speaking..... | 6 | 2 | 2 | 2 |
| Foreign Languages ⁴ | 9 | 3 | 3 | 3 |
| Social Science ⁵ | 15 | 5 | 5 | 5 |
| Biblical Literature ³ | 6 | 2 | 2 | 2 |
| Phys. Ed. & Fresh. Lectures..... | 3 | 1 | 1 | 1 |
| Electives | 9 | 3 | 3 | 3 |
| | <hr/> 48 | <hr/> 16 | <hr/> 16 | <hr/> 16 |

JUNIOR AND SENIOR

| | | | | |
|--------------------------------|----------|----------|----------|----------|
| Philosophy and Psychology..... | 10 | 5 | -- | 5 |
| Major Elective..... | 30 | 10 | 10 | 10 |
| Minor Elective | 15 | 5 | 5 | 5 |
| Free Electives | 35 | 10 | 15 | 10 |
| | <hr/> 90 | <hr/> 30 | <hr/> 30 | <hr/> 30 |

¹Not required if five or more years are offered for admission, but free electives may be substituted.

²If physics is elected, it should be taken in the Sophomore year, and trigonometry should be taken in the Freshman year unless it is offered for admission. Those who take physics may postpone social science until the Junior year.

³If preferred, Biblical literature may be taken in the Freshman year and history in the Sophomore year.

⁴Not required if three or more years of foreign language are offered for admission and the requirement completed in the Freshman year, but free electives may be substituted.

⁵The required courses in social science, unless otherwise determined in special cases, are sociology, economics, and political science.

BACHELOR OF SCIENCE

The required and elective work for the Bachelor of Science degree are the same as for the Bachelor of Arts degree, with stronger emphasis placed upon mathematics and science, as indicated above, the major being chosen from Group II, and one year less being required in foreign language.

BACHELOR OF SCIENCE IN CHEMISTRY

FRESHMAN

| Autumn Quarter | Winter Quarter | Spring Quarter |
|----------------------|--------------------------|----------------------|
| Inorg. Chem. 1a&2a 5 | Inorg. Chem. 1b&2b 5 | Inorg. Chem. 1c&2c 5 |
| English | English | English |
| Algebra or Biology 4 | Trig. or Physiol. 5 or 4 | Anal. Geom. or |
| Elective | Elective | Bacteriology 5 or 4 |
| Phys. Ed..... | Phys. Ed..... | Elective |
| | | Phys. Ed..... |
| <hr/> 16 | <hr/> 16 | <hr/> 16 |

SOPHOMORE

| | | | |
|----------------------|--------------------|--------------------|----|
| Adv. Inorg. and | Quant. Analysis | Quant. Analysis | |
| Qual. Chem...3 & 4 4 | Chem. 5 & 6..... 4 | Chem. 7 & 8..... 4 | |
| Physics 5 | Physics 5 | Physics 5 | |
| Elective 6 | Elective 6 | Elective 6 | |
| Phys. Ed. 1 | Phys. Ed. 1 | Phys. Ed. 1 | |
| | 16 | 16 | |
| | | | 16 |

JUNIOR

| | | | |
|-------------------|------------------|------------------|----|
| Org. Chemistry | Org. Chemistry | Food Products | |
| 11a & 12a 5 | 11b & 12b..... 5 | Chem. 16..... 4 | |
| Quant. Analysis | Quant. Analysis | Quant. Analysis | |
| Chem. 10..... 4 | Chem. 10..... 4 | Chem. 10..... 4 | |
| Elective 6 | Elective 6 | Elective 7 | |
| | 15 | 15 | |
| | | | 15 |

SENIOR

| | | | |
|------------------------|------------------------|-------------------------|----|
| Indus. Chem. 18a.... 3 | Indus. Chem. 18b.... 3 | Indus. Chem. 18c.... 3 | |
| Quant. Analysis | Elective 12 | Hist. of Chem. 23.... 2 | |
| Chem. 10..... 4 | — | Elective .....10 | |
| Elective 8 | 15 | | |
| | 15 | | |
| | | | 15 |

It is understood that the courses designated as elective in this outline include the regular requirements for the B. S. degree, as laid down on page 35. When these requirements have been fulfilled the remaining courses may be taken in chemistry or in any other department.

BACHELOR OF SCIENCE IN COMMERCE

For the degree of Bachelor of Science in Commerce, the requirements of the first two years are the same as those for the standard curriculum for Bachelor of Science, except that the following specific courses are required:

Economic Resources

Principles of Accounting

Principles of Economics

During the Junior and Senior years the student will elect his major and minor in more technical subjects, such as the following:

Psychology
 History of Economics
 Business Organization
 Business Administration
 Business Finance
 Commercial Law.
 Advanced Accounting
 Salesmanship and Sales Management
 Advertising
 Distribution and Marketing
 Business Social Relations and Business Ethics
 Advanced Economics
 Taxation
 Transportation
 Journalism
 Insurance

The first two years of the course are offered in 1922-23.

BACHELOR OF SCIENCE IN HOME ECONOMICS

FRESHMAN

| | Total | Autumn | Winter | Spring |
|---|------------|-----------|------------|-----------|
| English | 9 | 3 | 3 | 3 |
| Foreign Language or History ¹ | 9 | 3 | 3 | 3 |
| Chemistry | 15 | 5 | 5 | 5 |
| Home Economics | 8 | 3(2) | 2(4) | 3(1) |
| Art | 2½ | --- | 2½ | --- |
| Physical Education..... | 3 | 1 | 1 | 1 |
| Elective | 2 | 1 | --- | 1 |
| | <u>48½</u> | <u>16</u> | <u>16½</u> | <u>16</u> |

SOPHOMORE

| | | | | |
|-------------------------------------|------------|-----------|------------|-----------|
| Foreign Language ¹ | 9 | 3 | 3 | 3 |
| Science | 8 | --- | 4 | 4 |
| Elementary Psychology.. | 5 | 5 | --- | --- |
| Home Economics..... | 12 | 6(5)(6) | 3(8) | 3(3) |
| Physical Education..... | 3 | 1 | 1 | 1 |
| Art | 2½ | --- | 2½ | --- |
| Elective | 9 | 1 | 3 | 5 |
| | <u>48½</u> | <u>16</u> | <u>16½</u> | <u>16</u> |

JUNIOR AND SENIOR

| | | | | |
|------------------------------|-----------|-----------|---------------|------------|
| Psychology, Philosophy.. | 10 | 5 | --- | 5 |
| Social Science | 15 | 5 | 5 | 5 |
| Chemistry ² | 12 | 4 | 4 | 4 |
| Home Economics..... | 29 | 8(7)(12) | 11(9)(11)(13) | 10(10)(14) |
| Free Electives | 24 | 8 | 10 | 6 |
| | <u>90</u> | <u>30</u> | <u>30</u> | <u>30</u> |

¹If foreign language requirements for the B. S. degree have been fulfilled, history will be taken in one of these years and English 2 in the other.

²Other subjects may be substituted with the consent of the Head of the Department.

BACHELOR OF ARTS IN MUSIC

For a major in music the student must earn a minimum of forty hours in that subject, including not less than twenty-five hours in theoretical music. For a minor the student must earn twenty-four hours, including not less than fifteen hours in theoretical music. Credits earned in elementary piano may be credited toward the degree, but they may not be included in the major.

The candidate for this degree will not be required to present a full memorized program of music, but by the end of four years he should be able to perform in public acceptably. The emphasis will be placed on the scientific, appreciative, historical, and sociological aspects of music.

If in connection with his Bachelor's degree in music the student wishes to receive also a first grade state teacher's certificate he must earn, in addition to the foregoing, a minimum of twenty hours in education, including five hours in school administration, three hours in principles of education, three hours in history of education, and eight hours in school music methods, covering grades, high school, conducting, orchestra, and appreciation methods. He must also take a minimum of ten hours in psychology.

This course is offered as an alternative to the course leading to the degree of Bachelor of Music, for those who wish to attain musical proficiency, but at the same time to elect a more general course.

PRE-MEDICAL AND PRE-DENTAL COURSE; COMBINED B. S.-M. D. COURSE

All Class A medical colleges require, in addition to a four-year high school course, at least 90 quarter hours (60 semester hours) of college work for entrance to the medical course. This must include one year each of English, inorganic chemistry, physics, and biology, and a course in organic chemistry. Dental College requirements are similar. Some medical colleges require other courses also, such as quantitative analysis, and college French or German. The student intending to study medicine should familiarize himself early in his first college year with the entrance requirements of the medical school which he intends to enter. Several such schools require a bachelor's degree or its equivalent. Rush Medical College requires three years of college work. The medical department of the University of Iowa requires a year of French or German and 18 quarter hours of non-science subjects in addition to English and foreign language. The two-year course outlined below can be adjusted to fulfill the requirements for most Class A medical colleges, but for it the student receives no degree. The three-year course includes also all of the required subjects for the B. S. degree, and the student who completes it will have his degree conferred upon him when he has finished two years of the course in a Class A medical college.

FIRST YEAR

| Autumn Quarter | | Winter Quarter | | Spring Quarter | |
|----------------------|----------|----------------------|----------|----------------------|----------|
| English | 3 | English | 3 | English | 3 |
| Inorg. Chem. | 5 | Inorg. Chem. | 5 | Inorg. Chem. | 5 |
| Biology | 4 | Zoology | 4 | Zoology | 4 |
| Non-Science Elec.... | 3 | Non-Science Elec.... | 3 | Non-Science Elec.... | 3 |
| Phys. Ed. | 1 | Phys. Ed. | 1 | Phys. Ed. | 1 |
| | <hr/> 16 | | <hr/> 16 | | <hr/> 16 |

SECOND YEAR

| | | | | | |
|----------------------|----------|----------------------|----------|----------------------|----------|
| Physics | 5 | Physics | 5 | Physics | 5 |
| Org. Chem. | 5 | Org. Chem. | 5 | Quant. Chem. | 4 |
| French or Elective.. | 5 | French or Elective.. | 5 | French or Elective.. | 5 |
| Phys. Ed. | 1 | Phys. Ed. | 1 | Elective | 1 |
| | <hr/> 16 | | <hr/> 16 | Phys. Ed. | 1 |
| | | | | | <hr/> 16 |

Combined Degree Course: Two years as above, the third year's work to be arranged to complete the requirements laid down for the B. S. degree. Further work in biology and chemistry is advised, to make a total of 45 hours' credit for the year.

COMBINED LIBERAL ARTS AND LAW COURSE

By vote of the faculty of the College of Liberal Arts, any student who has satisfactorily completed 139½ hours (three years in residence) in the College of Liberal Arts may receive his degree from the University after the satisfactory completion of two years' work in a law school of standard rank, these two years being accepted in lieu of the Senior year at the University.

DESCRIPTION OF COURSES

AGRICULTURE

(See Biology and Agriculture.)

ART

(See School of Fine Arts.)

ASTRONOMY

1. ASTRONOMY. 5 hours, autumn quarter.

This is essentially a descriptive course, including the study of astronomical instruments, the earth as an astronomical body, the moon, the sun, the planets, asteroids, satellites, the stars, nebulae, comets, meteors, etc. Prerequisites, high school physics and mathematics 2.

ATHLETICS

(See Physical Education and Athletics.)

BIBLICAL LITERATURE AND RELIGIOUS LIFE

The courses in this department are planned to give to young people in the period of their awakening a well-rounded preparation in Christian fundamentals, to maintain a deep religious conviction based upon intelligent study, and to develop desire and ability for efficient religious service in society. There is no purpose to compete in any way with seminaries where ministers and missionaries are being trained. The courses are practical rather than theoretical and critical, and aim at a sane development of the Christian life. They will be conducted as a regular part of the college curriculum and receive credit as do other University courses.

For all Liberal Arts students a minimum of six hours will be required for graduation, to be taken during the Freshman and Sophomore years, unless postponed by special arrangement. Choice may be made from the following subjects, which are also open to students from all Schools and Colleges of the University:

1a. STORY OF THE BIBLE. 3 hours, autumn quarter.

This course traces the origin and growth of the Bible into the King James Version.

1b. INTERPRETATION OF OLD TESTAMENT BOOKS. 3 hours, winter quarter.

A birds-eye view of the various books in their historical setting.

1c. INTERPRETATION OF NEW TESTAMENT BOOKS. 3 hours, spring quarter.

This aims to give an outline view of the New Testament in its historical setting.

2a. THE LIFE OF JESUS. 3 hours, autumn quarter.

A course which includes Messianic foregleams, New Testament times, and study of the Gospels.

2b. THE SOCIAL TEACHING OF JESUS. 3 hours, winter quarter.

A course which seeks to understand the Kingdom of Heaven as Jesus taught it.

2c. THE JOHANEAN LITERATURE. 3 hours, spring quarter.

Includes the Gospel, Letters, and Revelation.

3a. THE LIFE OF PAUL AND THE EARLY SPREAD OF CHRISTIANITY. 2 hours, autumn quarter.

This course covers the origin, organization, and life of New Testament Christianity and its spread over the world.

3b. THE CAPTURE OF CHRISTIANITY BY THE PAPACY. 2 hours, winter quarter.

This deals with the development of Christianity from Apostolic Age to the Reformation.

3c. THE REFORMATION PERIOD. 2 hours, spring quarter.

In this is traced the Fall of the Papacy and Rise of Protestant Christianity.

4a. THE PSYCHOLOGY OF RELIGION. 2 hours, autumn quarter.

This deals with the questions of spiritual experience.

4b. THE WORLD RELIGIONS. 2 hours, winter quarter.

This is a study of the various world religions into which Christianity enters.

4c. THE CHRISTIAN DYNAMIC. 2 hours, spring quarter.

An application of Christian principles to social and world reconstruction.

5. RELIGIOUS EDUCATION. 1 hour, throughout the year.

A training course for Sunday School teachers, which aims to do for the Bible teachers what the normal course does for public school teachers. The entire course covers a period of two years and carries with it, in addition to college credit, diplomas of graduation conferred by the various denominational Sunday School Boards. Given Sunday mornings at the University at 9:45.

BIOLOGY AND AGRICULTURE

The laboratory fee for each course in biology is \$3.00, except human physiology, which is \$1.00; a breakage deposit of \$3.00 is required of each student for each course, except human physiology, for which the deposit is \$1.00.

ANIMAL BIOLOGY

1a. GENERAL BIOLOGY. 2 hours, autumn quarter.

An introductory course illustrating the general principles of biological science through a detailed study of type forms. Forms a year's course with 1b and 1c. Required of all pre-medical, pre-dental, and candidates for B. S. in Chemistry. Elective to Liberal Arts students and those specializing in Education. Course 2a must be taken with Course 2a.

2a. GENERAL BIOLOGY LABORATORY. 2 hours, autumn quarter.

Concurrent with Course 1a. Labs., 2, 3 hours each.

1b. INVERTEBRATE ZOOLOGY. 2 hours, winter quarter.

This course deals with the morphology and histology of type forms from each phylum, together with a study of the activities, distribution, habits, and life histories of the invertebrates. Required of all pre-medical and pre-dental students. Elective to students in the Colleges of Liberal Arts and Education. Course 2b must be taken with Course 1b.

2b. INVERTEBRATE ZOOLOGY LABORATORY. 2 hours, winter quarter.

Concurrent with Course 1b. Labs., 2, 3 hours each.

1c. VERTEBRATE ZOOLOGY. 2 hours, spring quarter.

A continuation of Courses 1a and 1b. The types and problems for study will be selected with a view to giving the student an appreciation of the relations of zoology to life and to human interests. Required of all pre-medical and pre-dental students. Course 2c must be taken with Course 1c.

2c. VERTEBRATE ZOOLOGY LABORATORY. 2 hours, spring quarter.

Concurrent with Course 1c. Labs., 2, 3 hours each.

3. HUMAN PHYSIOLOGY. 3 hours, winter quarter.

A study of the normal physiological processes in man, with special emphasis upon preventive medicine, sanitation and social hygiene. It furnishes a foundation for a better appreciation of the courses in psychology, sociology, and education. Open to all students excepting pre-medical and pre-dental. Required of first year Pharmacy students, and second year students in Home Economics. Course 4 must be taken with Course 3.

4. HUMAN PHYSIOLOGY LABORATORY. 1 hour, winter quarter.

Concurrent with Course 3. Lab., 1, 3 hours.

PLANT BIOLOGY**11. CRYPTOGAMIC BOTANY.** 2 hours, autumn quarter.

Intended to give a comprehensive survey of the flowerless plants, beginning with the simple uni-cellular types and tracing the unfolding of the plan of plant creation till it reaches its fullest development in the highly specialized flowering plants. Forms a years course with 13 and 15. Course 12 must be taken with Course 11. Elective to students in the Colleges of Liberal Arts and Education.

12. CRYPTOGAMIC BOTANY LABORATORY. 2 hours, autumn quarter.

Concurrent with Course 11. Labs., 2, 3 hours each.

13. PLANT MORPHOLOGY AND PHYSIOLOGY. 2 hours, winter quarter.

Course 14 must be taken with Course 13.

14. PLANT MORPHOLOGY AND PHYSIOLOGY LABORATORY. 2 hours, winter quarter.

Concurrent with Course 13. Labs., 2, 3 hours each.

15. PLANT RELATIONS. 2 hours, spring quarter.

This course deals with the classification, habits, uses and other features of plants which distinguish them as living beings and the companion of man. Prerequisite, Course 13.

16. PLANT RELATIONS LABORATORY. 2 hours, spring quarter.

Labs., 2, 3 hours each. Concurrent with the above.

17. BACTERIOLOGY. 4 hours, spring quarter.

Chiefly a laboratory course dealing with bacteria, yeasts and molds in their relation to man and to domestic animals and plants. Especial emphasis will be placed upon laboratory technique. Laboratory daily, including Saturdays. Text-book assignments and weekly quiz. For second year students in Home Economics and for Pharmacy students who are candidates for Ph.C. Open to Liberal Arts students who have completed a year of biology.

18. NATURE STUDY. 3 hours, spring quarter.

Admission limited to those enrolled in the College of Education. Laboratory and field work.

21. PHARMACEUTICAL BOTANY. 5 hours, autumn quarter.

For Pharmacy students. Taken in connection with Course 22.

22. MICROSCOPY. 2½ hours, autumn quarter.

For Pharmacy students. A laboratory course, confined to plant structure. Must be taken in connection with Course 21. Labs., 2, 3 hours each.

23. HISTOLOGICAL PHARMACOGNOSY. 4 hours, winter quarter.

For Pharmacy students. Prerequisite, Courses 21 and 22.

AGRICULTURE

The laboratory fee for each course in agriculture is \$3.00; a breakage deposit of \$1.00 is required of each student.

1. AGRICULTURE. 2 hours, throughout the year.

A year's course planned especially to meet the needs of those preparing to teach agriculture in high school. It treats of the salient facts and principles of field, orchard and garden crops, animal husbandry and stock judging, farm management, soils, marketing, rural life, etc. May not be elected by Freshmen. Course 2 must be taken with Course 1.

2. AGRICULTURE LABORATORY. 3 hours, throughout the year.

In addition to the regular assigned laboratory work each student will be required to select, try out, and perfect a minimum of fifteen experiments and projects per quarter, which may serve as a basis of laboratory exercises for his own use as a teacher. Labs., 3, 3 hours each.

CHEMISTRY

The laboratory fee for organic chemistry (Course 12) is \$5.00 per quarter; drug assay (Course 10^s) is \$5.00 per quarter; chemistry of food products (Course 16) is \$1.75. The laboratory fee for all other courses is \$3.50 per quarter. A breakage deposit of \$4.00 is required of each student for each course except chemistry of food products, for which the deposit is \$2.00.

The Department of Chemistry has been reorganized to meet more adequately the needs of the entire University. Courses are offered fulfilling the chemistry requirements in the curricula of the College of Liberal Arts, the College of Pharmacy, the College of Engineering, the Department of Home Economics, and the pre-medical course.

For those desiring to pursue chemistry as a profession, the curriculum outlined on page 35 may be elected. This course conforms to the regular requirements for the B. S. degree in the College of Liberal Arts, but, because of its professional character, the specialized degree "B. S. in Chemistry" will be granted to those completing it. The distinction between the chemical engineer and the chemist lies in the fact that the former is trained to the duties of a mechanical engineer in the chemical industries; the latter is trained for analytical or plant control work, research, or educational pursuits. The college course in chemistry should build a solid foundation in the theory and practice of chemistry, rather than attempt to prepare the student for a career in any specific line. Each of the many chemical industries has its own highly specialized intricacies, which can be mastered only when the graduate takes his place in that industry. Success depends on the soundness of a man's general training, his energy, initiative, good judgment, and integrity.

CHEMISTRY COURSES REQUIRED IN THE VARIOUS CURRICULA**PHARMACY.**

Ph. G. 101, 102, 103, 111, 112, 7, 8, 10^s.

Ph. C. The above and 3, 4, 5, 6, 10^s, 10^s, 17.

ENGINEERING. 1, 2, 20.**PRE-MEDICAL.** 1, 2, 7, 8, 11, 12.**HOME ECONOMICS.** 1, 2.

Electives suggested: 11a, 12a, 15, 16, 7, 8, 10^s, 17.

CHEMICAL ENGINEERING. 1, 2, 3, 4, 5, 6, 7, 8, 20, 24, 25, 11, 12, 16, 18, 19, 10^s, 10^s and electives.**B. S. IN CHEMISTRY.** 1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 16, 10 for 4 quarters (16 hrs.), 18, 23.

Electives suggested for Liberal Arts: 1st year, 1, 2; 2nd year, 11, 12, 16.

DESCRIPTION OF CHEMISTRY COURSES

1. **GENERAL AND INORGANIC CHEMISTRY.** 3 hours, throughout the year.
Required of all pre-medical students, and first year students of engineering and home economics. Elective to liberal arts students. Course 2 must be taken with Course 1. Total credits Courses 1 and 2, 15 hours.

2. **GENERAL AND INORGANIC CHEMISTRY LABORATORY.** 2 hours, throughout the year.

Concurrent with Course 1. The work during the autumn and winter quarters (2a and 2b) will include general experimentation and a study of the non-metallic and metallic elements and their compounds. Spring quarter (2c) qualitative analysis is given. Labs., 2, 3 hours each.

101. **GENERAL AND INORGANIC CHEMISTRY.** 3 hours, throughout the year.

This course is especially for pharmacy students. Course 102 must be taken with 101. Total credits, Courses 101 and 102, 15 hours.

102. **GENERAL AND INORGANIC CHEMISTRY LABORATORY.** 2 hours, throughout the year.

Concurrent with Course 101. For pharmacy students. Autumn and winter quarters, general experimentation; spring quarter, qualitative analysis. Labs., 2, 3 hours each.

103. **QUALITATIVE ANALYSIS.** 2 hours, spring quarter.

Lectures and recitations to accompany Course 102c, for pharmacy students.

3. **ADVANCED INORGANIC CHEMISTRY.** 2 hours, autumn quarter.

Accompanying advanced work in qualitative analysis (Course 4), this course reviews and amplifies the foundation principles of chemical action. Required of all chemical engineering students, and candidates for B. S. in chemistry and for Ph.C. Prerequisite, Chemistry 1 and 2.

4. **ADVANCED QUALITATIVE ANALYSIS.** 2 hours, autumn quarter.

Concurrent with Course 3. Required of students as in Course 3, with the same prerequisites. Labs., 2, 3 hours each.

5. **QUANTITATIVE ANALYSIS.** 1 hour, winter quarter.

Lectures to accompany Course 6. A discussion of methods and of technique for accuracy in analytical work. Required of all chemical engineering students, candidates for B. S. in chemistry, and for Ph.C. Prerequisite, Chemistry 1 and 2.

6. **QUANTITATIVE ANALYSIS LABORATORY.** 3 hours, winter quarter.

Elementary gravimetric analysis, each student analyzing a series of materials of unknown composition, by precipitation methods. Required of students as in Course 5, with the same prerequisites. Labs., 3, 3 hours each.

7. **QUANTITATIVE ANALYSIS.** 2 hours, spring quarter.

Lectures to accompany Course 8. A discussion of chemical equivalence, and volumetric methods of analysis, with extended practice in chemical calculations in the whole field of chemistry. Required of all pharmacy, pre-medical and chemical engineering students, and candidates for B. S. in chemistry. Prerequisites, Chemistry 1 and 2 or Chemistry 101 and 102 complete. This course is repeated in autumn quarter for pharmacy students.

8. **QUANTITATIVE ANALYSIS LABORATORY.** 2 hours, spring quarter.

Volumetric analysis, the preparation of standard solutions and analyses of various materials by their use. Required of students as in Course 7 with the same prerequisites. This course is repeated in autumn quarter for pharmacy students. Labs., 2, 3 hours each.

10. SPECIAL QUANTITATIVE ANALYSIS.

Classes in the courses indicated below will be organized as the demand requires, conforming with the curricula of the various colleges. Each course covers one quarter only. Lecture, 1 hour per week; laboratories, 3 per week, 3 hours. Credits for each course, 4 hours. Courses 5, 6, 7 and 8 are prerequisites unless otherwise specified.

10¹. WATER ANALYSIS. 4 hours, spring quarter.

Both sanitary and industrial. Required of chemical engineering students and candidates for B. S. in chemistry.

10². GAS AND FUEL ANALYSIS. 4 hours, winter quarter.

Analysis of air, flue gas, fuel gas, etc., and of coal and coke. Required as in 10¹.

10³. ANALYSIS OF IRON, STEEL AND ALLOYS. 4 hours.**10⁴. FOOD ANALYSIS. 4 hours.**

Standard methods of food analysis, including determinations of sugars and starches, protein, fats, acids, preservatives, etc. Students of home economics may elect this course with only Courses 7 and 8 prerequisite. Some work in sanitary water analysis is included for those who have not taken 10¹.

10⁵. DRUG ASSAYING. 4 hours, winter quarter.

Especially for pharmacy students. About 25 assays, typical of various analytical methods, are carried out. Only Courses 7 and 8 are prerequisite.

10⁶. ANALYSIS OF FATS AND OILS. 4 hours.

Elective to students specializing in chemistry. Methods used in identification, in determining suitability for various purposes, in control of saponification, etc.

10⁷. ORGANIC ANALYSIS. 4 hours.

Combustions for carbon and hydrogen, determinations of nitrogen, sulphur, phosphorus and halogens in organic materials, diazo titrations, etc.

10⁸. BIOCHEMICAL ANALYSIS. 4 hours.

Quantitative analyses of blood, urine, gastric contents, etc., such as are used in diagnostic work.

10⁹. MINERAL ANALYSIS. 4 hours.

Complete analyses of minerals and ores.

11. ORGANIC CHEMISTRY. 3 hours, autumn and winter quarters.

The aliphatic and aromatic series of carbon compounds are studied, with discussions of structural relations, commercial preparation and syntheses, uses, and physiological importance of numerous organic substances. Required of all pre-medical students, those specializing in chemistry, and students of chemical engineering. Elective to home economics students and others. Prerequisites, Chemistry 1 and 2.

12. ORGANIC SYNTHESIS. 2 hours, autumn and winter quarters.

A laboratory course concurrent with 11. Labs., 2, 3 hours each. Required of students as in Course 11, with the same prerequisites.

111. ORGANIC CHEMISTRY for Pharmacy students. 5 hours, autumn quarter; 3 hours, winter quarter.

This course given in the College of Pharmacy.

112. ORGANIC CHEMISTRY LABORATORY for Pharmacy students. 2 hours, autumn quarter; 1 hour, winter quarter.

Concurrent with 111. Given in the College of Pharmacy. Liberal Arts credit for 9 hours may be given for 111 and 112.

13. ADVANCED ORGANIC CHEMISTRY. 3 hours, throughout the year.

An advanced course for students specializing in chemistry, or for graduate students. Prerequisites, Courses 11 and 12. Credit may be given for a single quarter.

14. **ADVANCED ORGANIC SYNTHESIS.** 2 hours, throughout the year.

To accompany Course 13. Credit may be given for a single quarter.

15. **CHEMISTRY OF NUTRITION.** 4 hours, winter quarter.

A study of the chemical processes of digestion and assimilation, and an exposition of the chemical requirements of the human body. Lects., 3; lab., 1, 3 hours. Elective to students of home economics and others. Prerequisites, Courses 11 and 12.

16. **CHEMISTRY OF FOOD PRODUCTS.** 4 hours, spring quarter.

This course reviews the composition of foods, processes of manufacture, preservation and adulteration, from the commercial standpoint rather than from the domestic. Food values are also discussed. Required of students of chemical engineering and those specializing in chemistry. Elective to pre-medical and home economics students and others. Lects., 3; lab. or inspection trip, 1. Prerequisites, Courses 11 and 12.

17. **BIOCHEMISTRY.** 5 hours, two quarters.

A general course in the chemistry of plant and animal tissues and their metabolism. Lects., 3; labs., 2, 3 hours. (Not given in 1922-23.)

18. **INDUSTRIAL CHEMISTRY.** 3 hours, throughout the year.

A review of the principal chemical industries, including the source and chemistry of raw materials, processes of manufacture, utilization of by-products, recoveries, chemical requirements in finished products, and chemical control of manufacturing. Required of chemical engineering and B. S., in chemistry students, elective to others. Prerequisites, Courses 1, 2, 7, 8, 11 and 12.

19a. **CHEMICAL MACHINERY.** 4 hours, autumn quarter.

A study of the different types of containers, kettles, autoclaves, agitators, filters, conveyors, driers, ovens, piping systems, etc., employed in chemical industries. Required of chemical engineering students.

19b. **CHEMICAL MACHINE DESIGN.** 4 hours, winter quarter.

A continuation of 19a, in which each student is required to draw up specifications in detail for small production units for stated purposes.

19c. **CHEMICAL PLANT DESIGN.** 4 hours, spring quarter.

A continuation of 19b, broadening from design of units to design of plants.

20. **CHEMICAL TECHNOLOGY.** 4 hours, winter quarter.

A course covering chemical problems commonly met with in industries of all kinds, such as those relating to metals, fuels, boiler waters, lubricants, paints, corrosion of structural materials, etc. Required of all engineering students. Prerequisites, Courses 1 and 2.

21. **PHYSICAL CHEMISTRY.** 3 hours, one quarter.

(Not given in 1922-23.)

22. **PHYSICAL CHEMISTRY LABORATORY.** 2 hours.

Concurrent with Course 21. (Not given in 1922-23.)

23. **HISTORY OF CHEMISTRY.** 2 hours, spring quarter.

Required of candidates for B. S. in chemistry.

24. **METALLURGY.** 3 hours, spring quarter.

A study of the commercial processes employed in extraction or reduction of ores and refinement of metals, and the characteristics of the common metals and alloys. Required of chemical engineering students.

25. **MINERALOGY.** 3 hours, autumn quarter.

The crystallography, composition, occurrence and identification of the more common minerals are covered in this course. Required of students in chemical engineering, second year. Lects., 2; lab., 1, 3 hours.

DRAWING

(See School of Fine Arts.)

DRAMATIC ART

(See School of Fine Arts.)

ECONOMICS AND BUSINESS ADMINISTRATION

1. **ECONOMIC RESOURCES.** 5 hours, autumn quarter.

This course has been prepared for beginners in the study of economics. The distinguishing feature of the course is the depicting of social structures in terms of what they do. Freshman elective.

2. **PRINCIPLES OF ECONOMICS.** 5 hours, winter quarter.

This course takes up the fundamental principles of economics; the productive forces; the productive industries; exchange; distribution of wealth; consumption of wealth; public finance reform. Sophomore elective.

3. **ADVANCED PRINCIPLES OF ECONOMICS.** 5 hours, spring quarter.

Open to Seniors.

4. **PRINCIPLES OF ACCOUNTING.** 5 hours, spring quarter.

An elementary course in Accounting. Open to Sophomores.

5. **BUSINESS PRINCIPLES, ORGANIZATION, AND ADMINISTRATION.** 5 hours, winter quarter.

This course takes up the study of the science of business, forms of business enterprises, financing, management, wage systems, control of labor, buying and selling, advertising, foreign trade, credit, banking, exchange, and the principles of accounting. Open to Juniors and Seniors.

6. **ECONOMIC ASPECTS OF FOREIGN RELATIONS.** 3 hours, autumn quarter.

A study in Political Economy relating to the new world order.

7. **THE ECONOMIC EXPERIMENT IN RUSSIA.** 3 hours, autumn quarter.

A study of the Economic theory of Communism, with special reference to Russia's experience. Given in alternate years; not offered in 1922-23.

8. **THE CASE FOR CAPITAL AND FOR LABOR.** 3 hours, spring quarter.

The fundamental principles, the basis, and the actual operation of Capitalism and Socialism.

9. **THE ECONOMICS OF POVERTY.** 2 hours, spring quarter.

A study in the cases, extent, and remedies for poverty from an economic standpoint.

10. **HISTORY OF LABOR IN THE UNITED STATES.** 5 hours, spring quarter.

A thorough study in the origin, development, and present conditions of American labor. Given in alternate years; not offered in 1922-23.

Note.—See also under Psychology.

EDUCATION

(See College of Education.)

ENGLISH

Course 1a, b, c is required of all Freshmen throughout the year, 9 hours.

One course from the following group is required of all Sophomores in the College of Liberal Arts: 2a, 2b, 2c, 3a.

6a, b is required of all Sophomores intending to major in English. This course is a prerequisite to all other courses in English literature.

All students electing English as a major subject must also take either English 8c or 9c.

Thirty hours of elective work is required of students whose major subject is English. (Elective courses are courses not required for graduation.)

Fifteen hours of elective work is required of students whose minor subject is English.

The Department reserves the right to require students to discontinue courses for which they have not had sufficient preparation and to substitute more elementary courses therefor.

1a, b, c. 3 hours throughout the year.

A study of the sentence, paragraph, and whole composition, accompanied by a constant practice in writing and the study of illustrative essays. Considerable time is devoted to the study of the various forms of literary composition during the spring quarter. Required of all Freshmen.

2a. NARRATION. 2 hours, autumn quarter.

A study of the theory and practice of narrative writing. Prerequisite: 1a, b, c.

2b. DESCRIPTION. 2 hours, winter quarter.

A study of the theory and practice of descriptive writing in its relation to other forms. Prerequisite: 1a, b, c.

2c. EXPOSITION. 2 hours, spring quarter.

The study and analysis of the expository essay, with constant practice in expository writing. Prerequisite: 1a, b, c.

3a. ARGUMENTATION. 2 hours, autumn quarter.

A study of the principles and practice of argument, both formal and informal. Sophomore, Junior, and Senior elective.

3b. DEBATING. 2 hours, winter quarter.

A study of the principles and technique of debating, with considerable practice in both formal and extemporaneous debating. Open to Sophomores who have credit for English 3a. Junior and Senior elective.

4. THE TEACHING OF HIGH SCHOOL COMPOSITION. 3 hours, summer quarter.

(This course will be given in any quarter if petitioned for by ten students.)

The theory and practice of planning and teaching high school courses in English composition. Prerequisite: Freshman English or its equivalent in teaching experience.

5a, b. GENERAL CHARACTERISTICS AND FORMS OF LITERATURE. 2 hours, autumn and winter quarters.

Literature as an art; the elements of subject matter; the elements of form. The Epic, the Lyric, the Drama, the Romance, the Novel, the Essay. Required of Sophomores (except Group I. See 6 a-b).

6a, b. AN INTRODUCTION TO THE STUDY OF LITERATURE. 3 hours, autumn and winter quarters.

A reading course intended to develop a taste for and appreciation of good literature. Selections for reading are chosen for their inherent interest as well as for their permanent qualities as literature. This course is a prerequisite to all other courses in English literature. No credit is given unless both quarters are taken. Required of all Sophomores in Group I. Sophomore, Junior, and Senior elective.

7a, b, c. THE HISTORY OF THE ENGLISH DRAMA. 2 hours, throughout the year.

This course attempts to trace the origin and growth of the traditions and influences affecting the English drama from its beginnings until the present time as they manifest themselves in representative plays. Lectures, reports, and extensive readings. No credit is given unless the entire course is taken. Junior and Senior elective.

8. CHAUCER. 5 hours, spring quarter.

Representative selections from Chaucer's works will be read and discussed. No knowledge of Middle English is required. Sophomore, Junior, and Senior elective. (Given in alternate years. Not given in 1922-23.)

9. EARLY ENGLISH LITERATURE. 5 hours, spring quarter.

A study of the most important literary productions in England before the time of Elizabeth, both in their original forms and in translation. No knowledge of Old or Middle English required. Sophomore, Junior, and Senior elective. (Given in alternate years. Given 1922-23.)

10a. TENNYSON. 5 hours, autumn quarter.

Reading of all the important poems. Tennyson as a poet. The characteristic qualities of his verse; his relation to the thought movements of his time. (Not given in 1922-23.)

10b. BROWNING. 5 hours, winter quarter.

Especial attention is given to the interpretative reading of the most important of the best known poems, and to "The Ring and the Book." His style, use of dramatic monologue, etc. (Not given in 1922-23.)

10c. CONTEMPORARY ENGLISH LITERATURE. 5 hours, spring quarter.

11a. SHAKESPEARE. 5 hours, autumn quarter.

Rapid reading of the important plays. (Not given in 1922-23.)

11b. NINETEENTH CENTURY DRAMA. 5 hours, winter quarter.

Representative plays by Ibsen, Bjornsen, Shaw, Jones, and Pinero (Not given in 1922-23.)

11c. RECENT DRAMA. 5 hours, spring quarter.

12a. NINETEENTH CENTURY FICTION. 5 hours, autumn quarter.

A rapid introductory survey of the trend of fiction during the eighteenth century. The course will deal chiefly with the writers of the nineteenth century: Scott, Jane Austen, Dickens, Thackeray, George Eliot, etc.

12b. CONTEMPORARY FICTION. 5 hours, winter quarter.

13. ROMANTIC POETS. 5 hours, winter quarter.

14. AMERICAN LITERATURE. 5 hours, autumn quarter.

15. THE TEACHING OF HIGH SCHOOL ENGLISH. 3 hours, spring quarter.

Topics: The place of literature in general culture; its relation to the adolescent period; the course of study; methods of presentation of historical material and particular selections. Open for credit only to those who are doing major work in English. (Not given in 1922-23.)

GEOLOGY

1. STRUCTURAL GEOLOGY. 5 hours, winter quarter.

This course deals with structural geology; the causes and effects involved in the continuous changes that have taken place in the earth's crust from the beginning. Prerequisite: High School Physics.

2. HISTORICAL GEOLOGY. 5 hours, spring quarter.

A continuation of Course 1, but dealing with the origin, development and times of the various types of vegetable and animal life, including man, from the beginning to the present time. Prerequisite: Course 1.

GREEK AND LATIN

GREEK

1. **ELEMENTS OF GREEK.** 5 hours, autumn and winter quarters.

This course is for those who begin the study of Greek in college. Careful attention is given to inflections, principles of syntax, vocabulary, facility in reading and writing easy sentences in Greek.

2. **ANABASIS.** 5 hours, spring quarter.

Book 1 of the Anabasis, with emphasis on the essentials of grammar and composition.

3. **XENOPHON.** 3 hours, throughout the year.

Three additional books of the Anabasis are read, with selections from the Memorabilia. Study of Greek life.

4. **HOMER.** 3 hours, throughout the year.

Several books of the Iliad or Odyssey are read. Attention is given to Mythology and Homeric Life.

5. **PLATO.** 3 hours, autumn quarter.

Apology and Crito, with study of the life and teaching of Socrates.

6. **TRAGEDY.** 3 hours, winter and spring quarters.

Selected plays. Rise and development of Greek tragedy. Study of Greek theatre.

7. **DEMOSTHENES ON THE CROWN.** 3 hours, autumn quarter.

Study of Athenian political life and the development of Greek oratory.

8. **THE NEW TESTAMENT.** 3 hours, winter and spring quarters.

Selections from the Acts of the Apostles and the Epistles to the Corinthians. This course is intended to suit the needs of those who desire a working knowledge of the New Testament. Special attention is paid to the grammar and the forms of the text. Burton's "New Testament Modes and Tenses" is required in connection with this study. Open to Seniors.

A class in Greek New Testament meets once a week throughout the year if called for.

9. **GREEK LITERATURE.** 3 hours.

The object of this course is to secure for the students untrained in Greek some acquaintance with ancient Greek literature, and to trace its influence upon modern literature, thought and civilization. Attention is given to Greek life and customs. No collateral reading is required in any language other than English.

LATIN

1. **ELEMENTARY LATIN.** 5 hours, throughout the year.

First year book, Caesar's Gallic War, and prose composition.

2. **CICERO.** 3 hours, throughout the year.

Selected orations of Cicero, prose composition, drill in forms and syntax.

3. **VIRGIL.** 3 hours, throughout the year.

Five books of Virgil's Aeneid, mythology, and assigned topics on selected passages.

4. **LIVY.** 3 hours, autumn and winter quarters.

Selections from books I, XXI, and XXII.

Study of the Roman and Carthaginian military systems and naval policies of both nations.

5. **CICERO.** 3 hours, spring quarter.

De Amicitia or De Senectute with other selections.

6. HORACE AND OVID. 2 hours, throughout the year.
Odes and Epochs of Horace and selections from Ovid.
7. TACITUS. 3 hours, throughout the year.
Agricola and Germania. Social and political conditions under the early empire.
8. PLAUTUS AND TERENCE. 3 hours, winter and spring quarters.
Several plays will be read. Study of the origin and development of the Roman drama.

HISTORY AND POLITICAL SCIENCE

HISTORY

1. MEDIAEVAL AND MODERN HISTORY. 3 hours, throughout the year.
(1a) Mediaeval History (376-1270). From the beginning of the migrations to the close of the Crusades. (1b) The Renaissance and the Reformation. (1270-1648.) From the close of the Crusades to the Peace of Westphalia. (1c) Modern History. (1648-1900.) An outline of the age of Absolute Monarchies, of the French Revolution and Napoleonic Era, and of the Nineteenth Century. Required, unless American History is substituted.
2. AMERICAN HISTORY, (1492-1783). 3 hours, autumn quarter.
This course takes up the discovery, the exploration, the settlements, and the colonial conditions of America, closing with the study of the American Revolution.
3. AMERICAN HISTORY, (1783-1865). 3 hours, winter quarter.
The establishment of the Federal Government, the Era of Federalism, Jeffersonian Democracy, the War of 1812 and its problems, Jacksonian Democracy, the slavery struggle and the Civil War.
4. AMERICAN HISTORY, (1865-1920). 3 hours, spring quarter.
Reconstruction, the economic development 1860-1880, Big Business, the labor situation, the recent age.
American History may be taken instead of Mediaeval and Modern History if the student prefers.
5. THE FRENCH REVOLUTION AND NAPOLEONIC ERA. 4 hours, autumn quarter.
The work of this course takes up the causes, development, and results of the French Revolution. The Napoleonic Era is the Europeanization of the Revolution.
6. ANCIENT HISTORY. 4 hours, winter quarter.
This course is designed especially for those who intend to teach history in the grades and in high school. Besides covering the field of history from the earliest time to the Era of Migrations the course will take up the principles involved in teaching history and a study of the evaluation of text books. Open to all students of college grade, but Juniors and Seniors will be required to do extra work.
7. EUROPE IN THE NINETEENTH CENTURY. 4 hours, spring quarter.
An intensive study of Europe since the Treaty of Vienna. The course will close with the end of the century. The political, economic and social phases of history will be covered. Open to students who have had Modern European History.
8. DIPLOMATIC HISTORY, (1776-1920). 4 or 5 hours.
This course covers the field of the foreign relations of the United States from the Revolution to the present day. Not offered in 1922-23.
9. HISTORY OF ENGLAND. 4 hours.
This course covers the social, economic and political history of England 1485-1815. Not offered 1922-23.

10. RECENT HISTORY. 5 hours, summer quarter.

European History from 1870 to the end of the World War, the causes of which will be traced.

11. ECONOMIC HISTORY OF MODERN EUROPE. 5 hours.

This course will deal with the economic development of Europe since the discovery of America. Offered when demand requires it.

12. ECONOMIC HISTORY OF THE UNITED STATES. 5 hours.

Offered when demand requires it.

13. HISTORICAL PROBLEMS. 5 hours.

This course takes up the special problems that the history student encounters and gives the principles of historical research. For advanced students.

14. CURRENT HISTORY. 1 hour, throughout the year.

This class meets once a week to report on the events of the week and discuss their importance.

15. CONSTITUTIONAL HISTORY.**POLITICAL SCIENCE****1. INTRODUCTION TO GOVERNMENT. 5 hours, autumn quarter.**

This course is open to Freshmen and will be accepted in lieu of Course 3 for the required work in Political Science. It will be based on "An Introduction to the Problem of Government" by Willoughby and Rogers. The principles involved in the governmental science constitute the subject for study.

2. MUNICIPAL GOVERNMENT IN THE UNITED STATES. 4 hours, winter quarter.

A study of the various forms of city government in the United States. Prerequisite: Course 1 or 3.

3. AMERICAN GOVERNMENT. 5 hours, spring quarter.

This course is designed to interest the student in the principles and machinery of the government of the United States. The course will be based on "The Government of the United States" by Munro.

4. GOVERNMENT OF EUROPEAN CITIES. 5 hours.

A course similar to Course 2, but based on European forms of city government. Offered when demand requires it. Prerequisite: Course 1 or 3.

5. COMPARATIVE GOVERNMENT. 5 hours.

Designed to show the various forms of government now in operation and compare them with the American form. Prerequisite: American Government.

6. INTERNATIONAL LAW. 5 hours.

This takes up the rules and regulations existing between governments and commonly known as the Law of Nations. Based on a text book and international cases. Prerequisite: Course 1 or 3.

HOME ECONOMICS

Home-making has come to be regarded as one of the great professions, in which the large majority of women will engage. There is every reason, therefore, why young women should have an opportunity to elect college courses in preparation for this profession. There are also many young women who wish to prepare themselves for the teaching of Home Economics in our public schools, where the demand is becoming increasingly great.

The Department of Home Economics is organized to meet the needs of these two groups. The following schedule outlines the Home Economics work by years. Students who are planning to teach Home Eco-

nomics should take ten hours of Psychology and twenty hours of Education if they wish to fulfill the requirements of the first-grade state certificate. For two-year Normal Course, see page 67.

The laboratory fee for each course in sewing and millinery is \$4.50; for each course in cooking, \$7.50, except "Planning and Serving Meals" and "Dietetics," for which the fee is \$10.00 each.

1. **SELECTION AND PREPARATION OF FOOD.** 3 hours, spring quarter.

The chemical composition and uses of foods; the changes effected by heat, cold, or fermentation; principles of selection, and combinations. Lect., 1; labs., 2, 3 hours each. Prerequisite, Chemistry 1.

2. **TEXTILES AND GARMENT MAKING.** 3 hours, autumn quarter.

Development of the textile industry; study of the important fibers and materials made from them. The use and care of sewing machines and attachments; making of underwear and cotton dress. Lect., 1; labs., 2, 3 hours each.

3. **ADVANCED CLOTHING.** 2 hours, spring quarter.

Continuation of Course 2 with special application of the principles of art, economics, and hygiene to the costume. Making of a wool dress and a conservation problem. Lect., 1; labs., 2, 3 hours each. Prerequisite, Course 2; Color and Design, 2½ hours.

4. **HISTORY OF ARCHITECTURE.** 2 hours, throughout the year.

5. **HOME SANITATION AND ARCHITECTURE.** 3 hours, autumn quarter.

Situation, surroundings, and construction of the house; heating, lighting, ventilation, water supply, and drainage; making house plans. Prerequisites, Drawing and Perspective, 2½ hours.

6. **FOODS.** 3 hours, autumn quarter.

Continuation of Course 1. Preservation of foods; economics of the food question; meal service. Lect., 1; labs., 2, 3 hours each. Prerequisites, Course 1 and Chemistry 2.

7. **HOME DECORATION.** 3 hours, winter quarter.

Study in appreciation and selection of suitable home furnishings. Lects., 2; lab., 1, 3 hours. Prerequisite, Course 5, Art, 6 hours.

8. **PLANNING AND SERVING OF MEALS.** 3 hours, winter quarter.

Lect., 1; labs., 2, 3 hours each. Prerequisites, Courses 1 and 6.

9. **DIETETICS.** 5 hours, winter quarter.

Diet; relation of food to health; influence of age, sex, and occupation on the diet; the relation between the nutritive value and cost of the dietary emphasized. Lects., 2; labs., 3, 3 hours each. Prerequisites, Courses 1 and 6; Physiology and Bacteriology; Chemistry 11a, 12a, 15, 16.

10. **DRESS DESIGN.** 5 hours, spring quarter.

Emphasizes the art and ethics of dress. Study of dress from the historic standpoints. A dark silk dress and an afternoon dress or evening dress are made. Lects., 2; labs., 3, 3 hours each. Prerequisites, Courses 2 and 3.

11. **MILLINERY.** 3 hours, winter quarter.

Making and covering of hat frame with straw, silk, or velvet, etc. Trimming of hats. Lect., 1; labs., 2, 3 hours each. Prerequisites, Courses 2 and 3; Art, 2 hours.

12. **HOUSEHOLD MANAGEMENT.** 5 hours, autumn quarter.

Housekeeping as a business; organization and management; distribution of the income; budgets. Prerequisites, Courses 6, 3, and 5; Economics, 5 hours.

13. **HISTORY OF THE HOME ECONOMICS MOVEMENT.** 3 hours, winter quarter.

The development of home economics as a factor in the education of women. Required of all who wish to be recommended to teach.

14. TEACHERS COURSE. 5 hours, spring quarter.

The work in different types of institutions; planning of courses. Methods of presenting the work and its correlation with other subjects. Observation and practice teaching. Open only to Seniors.

LATIN

(See Greek and Latin.)

MATHEMATICS AND PHYSICS**MATHEMATICS**

The aim of this department is to develop in the student the habit of accurate and precise expression, and the power of logical thinking; to impress the student with the intimate relation of mathematics to the natural sciences, and to show to the student the practical value of the higher mathematics, as well as its value for mental development. Classes in first year mathematics will be divided at the end of the first month into fast and slow sections. Complete credit is given in both sections, but the students of greater ability and better preparation are given a more extensive course.

0. ALGEBRA. 5 hours, autumn quarter.

A collegiate treatment of quadratics and other topics covered in the third semester of algebra of secondary schools. For students who offer only one unit of algebra for entrance or whose preparation in algebra is otherwise deficient. May be taken in the Freshman or Sophomore years in place of college algebra by all students except those specializing in mathematics or engineering. No credit if taken after Sophomore year. Not counted as part of major. Students whose preparation is deficient are strongly recommended to take Course 0 before Course 1. Prerequisites, $1\frac{1}{2}$ years high school algebra and 1 year plane geometry.

1. COLLEGE ALGEBRA. 5 hours, autumn quarter.

A continuation of Course 0. Required by engineering students and those specializing in mathematics. Prerequisites, $1\frac{1}{2}$ years high school algebra and 1 year plane geometry.

2. TRIGONOMETRY. 5 hours, winter quarter.

This course presents the mathematics of the triangle. It includes the development and use of the trigonometric functions, and applications to the solution of the right angle, the oblique triangle, and circular measure; it teaches the theory and use of logarithms; their practical application in the solution of many problems. The course includes a short course in spherical trigonometry, including problems in latitude, longitude, and time. Prerequisite, Course 1 or Course 0.

3. PLANE ANALYTIC GEOMETRY. 5 hours, spring quarter.

Elements of plane analytics, including the geometry of conic sections, with an introduction to solid analytics. Prerequisite, Course 1 or 2.

4. INTRODUCTORY CALCULUS. 5 hours, autumn quarter.

For students of science. The elementary principles, methods and formulas of differential and integral calculus and their application to practical problems. Intended for students of physics and chemistry who do not wish to take the longer course in calculus (Courses 5, 6, 7 and 8). Prerequisites, Course 1 and Course 2 or Course 3.

5. DIFFERENTIAL CALCULUS. 5 hours, autumn quarter.

This course presents the theory of limits of a variable, the derivative, maxima and minima of functions, rates, curvature, partial differentiation, expansion of functions, etc. Prerequisite, Course 3.

6. INTEGRAL CALCULUS. 5 hours, winter quarter.

A continuation of the calculus, including the use of the integral in the solution of problems; integration by parts; integration, a process of summation; successive and partial integration, and the use of the formulae. Prerequisite, Course 5.

7. DIFFERENTIAL EQUATIONS. 5 hours, spring quarter.

The introduction and use of some of the ordinary differential equations. Prerequisite, Course 6.

8. PRACTICAL CALCULUS. 2 hours, spring quarter.

Application of the more practical use of calculus. Prerequisite, Course 6.

PHYSICS

The laboratory fee for each course in Physics is \$3.50 and a breakage deposit of \$3.50 is required of each student for each course.

0. GENERAL COLLEGE PHYSICS. 4 or 5 hours, throughout the year.

A course for general information without recourse to mathematical analysis. Will meet requirements of students in agriculture, home economics, music and also those of the Association of American Medical Colleges. Does not require trigonometry. Three lectures and recitations and one or two laboratories per week. Should not be chosen by students specializing in mathematical sciences, engineering students and others having had trigonometry and desiring a more thorough course. These students should take general physics, described below. Given if demand requires it.

1, 2. GENERAL PHYSICS. Required of all scientific students and engineers. The courses in Physics include papers and trips in which are emphasized the practical application of physical laws to the many fundamental problems in the industries and professions. This course continues throughout the year as follows:

1a. MECHANICS AND HEAT. 3 hours, autumn quarter.

The elementary study of motion, force, work, equilibrium, the machines, elasticity and the mechanics of fluids; the theory of heat, temperature, expansion, measurement of heat, change of state, radiation and absorption and a chapter on Thermodynamics. Prerequisite, Mathematics 2.

2a. MECHANICS AND HEAT. 2 hours, autumn quarter.

Laboratory for Course 1a. Labs., 2, 3 hours each.

1b. MAGNETISM AND ELECTRICITY. 3 hours, winter quarter.

Magnetism; electrostatics; primary and secondary cells, electric currents, electrolysis, electromagnetism, the telegraph, telephone, wireless telegraph and the various machines and appliances. Prerequisite, Mathematics 2.

2b. MAGNETISM AND ELECTRICITY. 2 hours, winter quarter.

Laboratory for Course 1b. Labs., 2, 3 hours each.

1c. SOUND AND LIGHT. 3 hours, spring quarter.

The theory of sound; length of waves; velocity of sound; the Doppler effect; physical basis of music; resonance; interference; musical instruments. Nature and propagation of light; reflection plane and curved mirrors; refraction; dispersion; spectra; the optical instruments; polarization and its uses. Prerequisite, Mathematics 2.

2c. SOUND AND LIGHT. 2 hours, spring quarter.

Laboratory for Course 1c. Labs., 2, 3 hours each.

10. PHYSICS OF MUSIC. 2 hours, spring quarter.

A study of music from the physical standpoint, including consideration of the characteristics of sound, methods of production in different instruments, resonance, etc. Intended especially for music students. Lecture and laboratory.

MUSIC

(See under School of Fine Arts.)

PAINTING

(See under School of Fine Arts.)

PHILOSOPHY AND PSYCHOLOGY

PHILOSOPHY

1. LOGIC. 5 hours, autumn quarter.

The elements of deductive and inductive logic will be studied as an introduction to the general subject of philosophy. It will be considered not only as a science, but also as an art. The purpose is to render the student familiar with logical principles, and to give such practice in detecting fallacies as will enable him to think correctly and to recognize and refute fallacious arguments. Text-book, Hibben. Books of Reference, Jevons, Russell, Davis, Fowler, McCosh, Mill.

2. HISTORY OF PHILOSOPHY. 5 hours, winter quarter.

An introductory course beginning with philosophical speculations among the Greeks and tracing the development of thought through ancient and modern times, with special attention to the modern philosophers and to recent philosophical theories.

3. ETHICS. 5 hours, spring quarter.

The method of dealing with this subject is the historical. The moral life is traced in its development among different races and peoples. Thus the student gets a better view of the significance of ethics and a surer basis for the study of the principles and theory of morals. Text, Dewey and Tufts.

PSYCHOLOGY

1. ELEMENTARY PSYCHOLOGY. 5 hours, autumn quarter.

This course stresses the fundamental principles and laws of psychology that should be applied in teaching. Outside reading is required. One week is given to applied psychology other than teaching.

2. GENERAL PSYCHOLOGY. 5 hours, autumn quarter.

A thorough course for upper classmen dealing with the more advanced phases of psychology and its application.

3. CHILD PSYCHOLOGY. 3 hours, winter quarter.

How best to develop the instincts and capacities of the child; discussions of the most recent psychological studies in research.

4. SOCIAL PSYCHOLOGY. 3 hours, winter quarter.

The aim of this course is to discover the psychological processes which are of the greatest importance in the development of society, such as instinct, imitation, sympathy, etc.

5. APPLIED PSYCHOLOGY. 5 hours, spring quarter.

This course represents an attempt to formulate psychological principle in terms of conduct or behavior. This "functional" point of view in psychology offers a helpful perspective upon the problems in education, industry, law, medicine, and religion.

6. THE PSYCHOLOGY OF MANAGEMENT AND EMPLOYMENT. 3 hours, autumn quarter.

The aim of this course is to show the effect of the mind that is directing work upon that work which is directed and the effect of this undirected and directed work upon the mind of the worker. This course also gives an impartial account of the use of psychological tests under working conditions in a representative industry.

7. THE PSYCHOLOGY OF SELLING. 2 hours, one quarter.

This course is given for the progressive salesman, advertiser, sales-correspondent, and every one who is engaged in influencing men to buy. It undertakes to show that in investigating the sale psychologically the methods of scientific measurement must be employed.

PHYSICAL EDUCATION AND ATHLETICS

Physical education is required of Freshmen and Sophomores. The work consists partly of formal gymnastics and partly of games. Students especially interested in athletics may count participation in the major sports as the required work in physical training for the respective quarters. Credit on the physical training requirement will also be given for tennis, wrestling, soccer, volley ball, etc. Credit, 1 hour per quarter, 3 hours practice per week throughout the Freshman and Sophomore years.

The following courses are designed especially for young men who are preparing to act as athletic directors and coaches in high schools. They are not open to Freshmen, and are primarily for Sophomores. If taken by Juniors or Seniors the lecture course and the laboratory course combined carry only one hour of credit in each quarter. A student who takes the laboratory course in any quarter of his Sophomore year fulfills thereby his physical training requirement also for that quarter.

1. HISTORY AND THEORY OF ATHLETICS. 1 hour, autumn quarter.

A study of the origin and evolution of games. Special emphasis is placed upon the athletic achievements of the Greeks, Romans, English, and Japanese. The psychological phases which affect the athlete directly and indirectly are also carefully studied.

1a. FOOTBALL COACHING. 1 hour, autumn quarter.

Laboratory course concurrent with Course 1. 6 hours per week.

2. ANATOMY AND HYGIENE. 1 hour, winter quarter.

The anatomy of the human body, dealing with the location, structure, and action of the muscles, tendons, and bones. Hygienic principles of bodily care and sanitation are also included. Various phases of first aid are demonstrated.

2b. BASKETBALL AND GYMNASIAC COACHING. 1 hour, winter quarter.

Laboratory course concurrent with Course 2. 6 hours per week.

3. ADMINISTRATION OF ATHLETICS. 1 hour, spring quarter.

Includes a study of the best methods to promote athletic interests in a wholesome manner. Inter-departmental and intra-mural relations are featured.

3c. TRACK AND BASEBALL COACHING. 1 hour, spring quarter.

Laboratory course concurrent with Course 3. 6 hours per week.

Each of the above laboratory courses includes the actual handling of squads, officiating in practice games, and other athletic activities, under the supervision of the athletic director.

PHYSICAL EDUCATION FOR WOMEN

Physical education is required of all women throughout their Freshman and Sophomore years, 3 hours a week for one hour's physical education credit.

Required work consists of 2 hours per week of regular floor work and 1 hour of elective work, hygiene being taken during one quarter.

Floor work consists of tactics, calisthenics, apparatus work, and games.

Elective work consists of rhythm, sports in season (soccer, volley ball, basket ball, baseball, tennis, track), plays and games for primary use, playground supervision, and first aid.

HYGIENE. 2 hours, throughout the year.

This course consists of the principles of hygiene, both personal and general, and their application to every-day life. The course will be required throughout the year of all women who are excused from floor work by a doctor's certificate. Individual attention will be given all who need corrective exercises.

The Women's Athletic Association fosters such activities as dinners for all University women, sings for women, hiking, horseback riding, gymnasium demonstration, a spring festival, a tennis tournament, and a track meet.

PHYSICS

(See Mathematics and Physics.)

POLITICAL SCIENCE

(See History and Political Science.)

PSYCHOLOGY

(See Philosophy and Psychology.)

ROMANCE LANGUAGES

FRENCH

1. BEGINNING FRENCH. 5 hours, throughout the year.

Pronunciation, grammar, reading of modern French, composition and conversation. Students who have completed one year of high school French may be admitted to the spring quarter of this course upon the recommendation of the instructor.

2. SECOND-YEAR FRENCH. 3 hours, throughout year.

Course 2 is a continuation of Course 1. Reading of texts selected from Nineteenth century authors. Grammar in connection with reading. Conversation daily. Students desiring more thorough knowledge of grammar should take Course 3 in connection with this course. Prerequisite, Course 1, or two years of high school French.

3. FRENCH COMPOSITION AND CONVERSATION. 2 hours, throughout the year.

Thorough review of grammar and of pronunciation; daily practice in the writing of French and in conversation. This course is supplementary to Course 2. Prerequisite, Course 1.

4. ADVANCED READING COURSES. 3 hours, throughout the year.

4a. Representative authors of the 19th century. Selections from Flaubert and DeMaupassant.

4b. Continuation of 4a. Selections from Anatole France and Loti.

4c. French comedy in the 17th and 18th centuries; Moliere and Beaumarchais. Prerequisites, Course 1 and Course 2.

5. A SURVEY IN FRENCH LITERATURE. 3 hours, throughout the year.

5a. The Classical Period, the Drama. Moliere, Racine and Corneille.

5b. The Romantic Period. The Evolution of the Novel in the 19th Century; its sources and influences. Chateaubriand, Sand, Balzac, Flaubert, Zola, France.

5c. The Drama of the 19th Century. Modern tendencies as seen in the works of Hugo, Dumas fils, Augier, Rostand.

(Course 5 given in alternate years with Course 4.)

SPANISH

1. BEGINNING SPANISH. 5 hours, throughout the year.

Principles of grammar; oral and written exercises; conversation; reading of Spanish. The composition of the third quarter will be based largely upon commercial material. Students who have completed one year of high school Spanish may be admitted to the spring quarter of this course upon the recommendation of the instructor.

2. SECOND-YEAR SPANISH. 3 hours, throughout the year.

Review of grammar; composition; conversation; reading of modern Spanish literature. Prerequisites, Course 1, or two years of high school Spanish.

SOCIOLOGY

1. AN INTRODUCTION TO SOCIOLOGY. 3 hours, autumn quarter.

In this course the student should gain a true conception of the nature of society and the scope of sociology. This aim will be accomplished in three ways: (a) by giving some attention to the history of the science and its place in the group of social sciences; (b) by an analysis of the structure and functions of society, and a discussion of the underlying sociological principles and laws; and (c) by some scientific work on the part of the student in the way of first-hand study of a concrete social group. Required.

2. THE FAMILY AND OTHER SOCIAL INSTITUTIONS. 3 hours, winter quarter.

A study of the various social institutions in their origin and historical development, with special emphasis on the family. Lectures, readings, investigations, and theses.

3. SOCIAL PROBLEMS. 3 hours, spring quarter.

A study of some of the more important problems of society, including crime, pauperism, dependency, gambling, the social evil, amusements, luxury, industrial problems, leisure classes, immigration, social reform. Lectures, readings, investigations, class discussion, and theses.

SPANISH

(See Romance Languages.)

THE COLLEGE OF EDUCATION

GENERAL STATEMENT

The College of Education offers three four-year courses and eight two-year courses.

Not only is the theory of education stressed, but observation and practice teaching are required in most courses and definitely provided for in all. Those students who are preparing to teach in high school will do their observing and practice teaching in the University Institute, which serves as the University experimental high school, while those who are preparing for the grades will receive these advantages in the Des Moines city schools.

A first grade state certificate is granted by the State Board of Educational Examiners to graduates of the four-year courses in the College of Education; and a third grade state certificate, which becomes a second grade certificate after two years' successful teaching experience, is granted to graduates of the two-year courses. (The special uniform county certificate is granted for the supervisor's normal course in art and one of the normal courses in music.)

A Teachers' Placement Bureau is maintained in connection with the College of Education. No commission is charged, and yet a thorough canvass of the best positions in the state is made in behalf of the students desiring positions.

REQUIREMENTS FOR ADMISSION

On the basis of the general requirements for admission to the University (see pages -----), candidates for admission to the College of Education must present 15 units of preparatory work, as follows:

Required:

| | |
|----------------------|---------|
| English | 3 units |
| Mathematics— | |
| Algebra | 1 unit |
| Plane Geometry | 1 unit |
| History | 1 unit |
| Science | 1 unit |
| | <hr/> |
| | 7 units |

Elective:

Eight units from the list found on pages 31 and 32, at least four units of which shall be from the five principal groups: English, foreign language, mathematics, natural sciences, and the history-civics-economics group.

While foreign language is not required for admission to the College of Education, it is necessary for graduation with the degree of Bachelor of Arts or Bachelor of Science, on the same basis as in the College of Liberal Arts, namely, two years in college after two years of preparatory foreign language. If no foreign language, or only one year, is offered for admission, three years will be required in college. The total requirement is four years in high school and college combined; provided,

(1) that at least one year shall be taken in college unless the student has had five years or more in high school, and (2) that if all the foreign language is taken in college three years shall fulfill the requirement. It is recommended that not less than two years be taken in any one language.

No foreign language, either for admission or for graduation, is required for the degree of Bachelor of Science in Manual and Industrial Arts, or Bachelor of Science in School Supervision, or for the two-year diploma. It is strongly advised, however, that foreign language be taken in high school or in the two-year course, for otherwise the student will be handicapped by having to make it up if he returns to take his second two years for the bachelor's degree.

DEGREES, DIPLOMAS, AND COURSES

The College of Education grants the bachelor's degree to candidates completing the four-year course, and a college diploma to those completing any of the two-year courses.

I. Courses requiring four years for completion, and leading to the degree of Bachelor of Arts or Bachelor of Science, and a first grade state certificate:

- (a) General Course, with 30 hours elected in education and psychology, leading to the degree of Bachelor of Arts or Bachelor of Science.
- (b) Supervisor's Course in Education, leading to the degree of Bachelor of Science in school supervision.
- (c) Manual and Industrial Arts Course, leading to the degree of Bachelor of Science in manual and industrial arts.

II. A. Courses requiring two years for completion, and leading to the college diploma and a third grade state certificate:

1. High School and Departmental Course.
2. Grammar Grade Course.
3. Intermediate Grade Course.
4. Kindergarten-Primary Course.
5. Home Economics Course.
6. Manual Arts and Agriculture Course.
7. Supervisor's Course in Public School Music. (Education Course.)
- B. Courses requiring two years for completion and leading to a college diploma and a special uniform county certificate:
7. Supervisor's Course in Public School Music. (Conservatory Course.)
8. Supervisor's Course in Art.

I. FOUR-YEAR COURSES

BACHELOR OF ARTS CURRICULUM

Advisers: Dean of Education and the head of the department in which major work is taken.

The Bachelor of Arts curriculum leads to the degree of A. B., and a first grade state certificate, which becomes a life certificate after five years of successful teaching. The requirements are the same as for the A. B. course in the College of Liberal Arts, with 10 hours elected in psychology and 20 hours in education, as follows:

| FRESHMAN | | | | |
|---|-------|--------|--------|--------|
| | Total | Autumn | Winter | Spring |
| English | 9 | 3 | 3 | 3 |
| Foreign Languages ¹ | 9-15 | 3 or 5 | 3 or 5 | 3 or 5 |
| Mathematics or Science ² | 12-15 | 4 or 5 | 4 or 5 | 4 or 5 |

| | | | | |
|--------------------------|----------|----------------|----------------|----------------|
| History | 9 | 3 | 3 | 3 |
| Physical Education | 3 | 1 | 1 | 1 |
| Electives | 6-0 | 2-0 | 2-0 | 2-0 |
| | <hr/> 48 | <hr/> 16 or 17 | <hr/> 16 or 17 | <hr/> 16 or 17 |

SOPHOMORE

| | | | | |
|--------------------------------------|----------|----------|----------|----------|
| Foreign Languages ¹ | 9 | 3 | 3 | 3 |
| English and Public Speaking.. | 6 | 2 | 2 | 2 |
| Social Science ⁴ | 13 | 3 | 5 | 5 |
| Elementary Psychology | 5 | 5 | .... | .... |
| Education ⁵ | 8 | .... | 3 | 5 |
| Physical Education | 3 | 1 | 1 | 1 |
| Electives | 4 | 2 | 2 | .... |
| | <hr/> 48 | <hr/> 16 | <hr/> 16 | <hr/> 16 |

JUNIOR AND SENIOR

| | | | | |
|------------------------------|----------|----------|----------|----------|
| Philosophy | 5 | .... | .... | 5 |
| Advanced Psychology | 5 | 5 | .... | .... |
| Education ⁵ | 12 | 3 | .... | .... |
|  | .... | 3 | 3 | 3 |
| Major ⁶ | 30 | 10 | 10 | 10 |
| Minor ⁶ | 15 | 5 | 5 | 5 |
| Free Electives | 23 | 4 | 12 | 7 |
| | <hr/> 90 | <hr/> 30 | <hr/> 30 | <hr/> 30 |

¹See note on foreign language, page 34.²If Physics 1-2 is elected, it should be taken in the Sophomore year, and Trigonometry should be taken in the Freshman year unless it is offered for admission.³Not required if three or more years of foreign language are offered for admission and the requirement completed in the Freshman year, but free electives may be substituted. See note on foreign language, page 34.⁴With the consent of the Committee on Courses and Classification, Social Science may be postponed until the Junior year and work on the major subject may be started in the Sophomore year.⁵Ten hours in Psychology and 20 hours in Education are required. Of these 20 hours, three courses are specified: Principles of Education, 3 hours; History of Education, 3 hours, and School Administration, 5 hours. The remaining 9 hours may be selected by the student.⁶The major and minor should be taken in the subjects which the student is preparing to teach.

BACHELOR OF SCIENCE CURRICULUM

This is the same as the Bachelor of Arts curriculum, with the substitution of one year of mathematics or science for one year of college foreign language.

MANUAL AND INDUSTRIAL ARTS CURRICULUM

Advisers: Dean of Education and the head of the department in which the major is taken.

This course leads to the degree of Bachelor of Science in Manual and Industrial Arts. It was organized to provide preparation for those who wish to specialize in the teaching of manual training, art, and vocational subjects. It also provides courses for those who wish to take a minor in this department, as well as for those who would include some of the aspects of manual arts in a program of liberal study.

By a judicious selection of electives, students majoring in this course may also qualify to teach manual arts and science, manual arts and

domestic science, manual arts and agriculture, or manual arts and physical education. Teachers of these combination subjects are in great demand for high school positions.

FRESHMAN

| Autumn Quarter | | Winter Quarter | | Spring Quarter | |
|-----------------------|-----------|-----------------------|-----------|-----------------------|-----------|
| English | 3 | English | 3 | English | 3 |
| Math. 1-Algebra | 5 | Math. 2-Trig..... | 5 | Math. 3-Analytics .. | 5 |
| M. A. 20a-F. H. | | M. A. 21a-Mech. | | M. A. 21b-Mech. | |
| Drawing | 4 | Drawing | 4 | Drawing | 4 |
| M. A. 7-Forge | | M. A. 3-W. W. & | | M. A. 4-Cabinet | |
| Practice | 3 | Turn. | 3 | Making | 3 |
| Phys. Education | 1 | Phys. Education | 1 | Phys. Education | 1 |
| | <u>16</u> | | <u>16</u> | | <u>16</u> |

SOPHOMORE

| | | | | | |
|-----------------------|-----------|-----------------------|-----------|-------------------------|-----------|
| Psychology | 5 | Principles of Ed..... | 3 | School Admin. | 5 |
| Practice Teaching.... | 3 | Practice Teaching.... | 3 | Practice Teaching.... | 3 |
| M. A. 25a-Elem. | | M. A. 25b-Elem. | | M. A. 26a-Applied | |
| Design | 3 | Design | 2 | Design | 2 |
| Physics or Chem.... | 4 | Physics or Chem.... | 5 | Physics or Chem.... | 5 |
| Phys. Education | 1 | Electives | 2 | Phys. Education ... | 1 |
| | <u>16</u> | Phys. Education | 1 | | <u>16</u> |
| | | | <u>16</u> | | |

JUNIOR

| | | | | | |
|-----------------------|-----------|-------------------------|-----------|----------------------|-----------|
| Organic & Admin. | | Teach. Vocational | | Tests & Measure.... | 3 |
| Vocational Ed. | 3 | Education | 3 | M. A. 35c-Crafts.... | 5 |
| M. A. 35a-Crafts.... | 5 | M. A. 35b-Crafts.... | 5 | M. A. 9-Mach. Shop | 3 |
| M. A. 5-Cabinet | | M. A. 8-Pat. & Fdy. 3 | | Electives | 5 |
| Making | 3 | Electives | 5 | | <u>16</u> |
| Electives | 5 | | <u>16</u> | | |
| | <u>16</u> | | | | |

SENIOR

| | | | | | |
|-----------------------|-----------|-------------------------|-----------|-----------------------------------|-----------------|
| M. A. 22-Arch. | | M. A. 21c-Adv. | | M. A. 41-Shop | |
| Drawing | 5 | Mech. Drawing | 3 | Installation | 5 |
| Hist. of Education.. | 3 | M. A. 40-Str. Mat... 3 | | Vocational Edcn. & Guidance | 3 |
| Curriculum Bldg. | 2 | Teaching Special | | M. A. 12-Pipe | |
| M. A. 10-Auto | | Subjects | 3 | Fitting | 2 |
| Repairing | 3 | M. A. 11-Electric | | Thesis | 2 or 3 |
| Electives | 3 | Wiring | 2 | Electives | 3 |
| | <u>16</u> | Thesis | 2 | | <u>15 or 16</u> |
| | | Electives | 3 | | |
| | | | <u>16</u> | | |

For those preparing to teach drawing, design, and craft work, art courses may be substituted for advanced shop courses.

SCHOOL SUPERVISION CURRICULUM

This course is designed for the special training of school supervisors. It leads to the degree of Bachelor of Science in School Supervision (B. S. in S. S.)

FRESHMAN

| | |
|------------------------------------|---------|
| English | 9 hours |
| Group II (education excepted)..... | 12 " |
| Group III | 12 " |
| Electives | 15 " |

SOPHOMORE

| | |
|------------------------------------|------------|
| English and Public Speaking..... | 6 hours |
| Group I (additional) | 6 " |
| Group II (education excepted)..... | 9 " |
| Group III | 9 " |
| Elective | 12 to 15 " |

JUNIOR AND SENIOR

| | |
|-------------------------------------|------------|
| Group I | 18 hours |
| Group II (education excepted) | 18 " |
| Group III | 18 " |
| Education | 18 " |
| Elective | 18 to 24 " |

GROUP I

GROUP II

GROUP III

| | | |
|-----------------|-------------------|-------------|
| English | Commerce | Astronomy |
| French | Economics | Botany |
| German | Education | Chemistry |
| Graphic and | History | Geology |
| Plastic Arts | History of Art | Mathematics |
| Greek | Home Economics | Physics |
| Latin | Philosophy | Zoology |
| Music | Political Science | |
| Public Speaking | Psychology | |
| Spanish | Sociology | |

Note 1—Admission to Freshman year: 20 years of age; successful teaching experience; graduation from a standard four-year high school.

Note 2—Admission to Sophomore year: 20 years of age; successful teaching experience; one year in normal school or college which is approved beyond a standard four-year high school.

Note 3—Admission to Junior year: 21 years of age; successful teaching experience; two years in approved normal school or college beyond a standard four-year high school.

Note 4—Admission to Senior year: 21 years of age; successful teaching experience; three years in normal school or college beyond a standard four-year high school.

Note 5—One year in a college or normal school will be considered as fully meeting the course requirements of the Freshman year. Two years in a college or normal school will be considered as fully meeting the course requirements of the Freshman and Sophomore years. Those entering after the beginning of the Junior year must, before graduation, complete the requirements in courses of the Junior and Senior year.

Note 7—No student entering the University as a Freshman may take more than 8 hours of education in his Freshman year, 8 hours in his Sophomore year, 12 hours in his Junior, 12 hours in his Senior year. If more than these amounts are presented from other institutions, they will be credited, provided that in no case shall the total credits in education exceed 60 hours.

II. TWO-YEAR COURSES

The eight two-year courses described in the College of Education have been organized to meet a felt need in the public schools of Iowa. The completion of any of these two-year courses leads to a college diploma and a third grade state certificate, with the exception of the supervisor's course in art and one of the two courses in public school music, for which the special uniform county certificate is granted, in addition to the college diploma.. Twenty-two and one-half hours of professional training is required by the State Board of Educational Examiners in each of these two-year courses, leading to a third grade state certificate. Of this professional training about seven and one-half hours should be psychology, and the remaining fifteen hours educational courses. Three subjects in education are required, namely: School Management, 5 hours; History of Education, 3 hours; and Principles of Education, 3 hours. The other four hours are elective.

HIGH SCHOOL AND DEPARTMENTAL COURSE

Advisers: Dean of Education and the head of the department in which the major elective is taken. This course is designed for those who are preparing:

1. To become principals or superintendents in the smaller high schools.
2. To teach the junior or senior high schools.
3. To teach in schools having the departmental system.

| FIRST YEAR | | | | |
|--|-------------|-------------|----------|-------------|
| | Total | Autumn | Winter | Spring |
| English | 9 | 3 | 3 | 3 |
| History | 9 | 3 | 3 | 3 |
| Foreign Language, Mathematics, or Science..... | 9-15 | 3-5 | 3-5 | 3-5 |
| Elementary Psychology | 5 | 5 | --- | --- |
| Education | 5 | --- | --- | 5 |
| Music or Drawing..... | 3 | --- | 3 | --- |
| Physical Education | 3 | 1 | 1 | 1 |
| Electives | 5-0 | 1-0 | 3-1 | 1-0 |
| | <hr/> 48-49 | <hr/> 16-17 | <hr/> 16 | <hr/> 16-17 |

| SECOND YEAR | | | | |
|-----------------------------|----------|----------|----------|----------|
| English and Public Speaking | 6 | 2 | 2 | 2 |
| Social Science | 13 | 3 | 5 | 5 |
| Education | 12 | 3(2) | --- | --- |
| | --- | 3(8) | 3(10) | 3(15) |
| Child Psychology | 3 | --- | 3 | --- |
| Physical Education | 3 | 1 | 1 | 1 |
| Electives | 11 | 4 | 2 | 5 |
| | <hr/> 48 | <hr/> 16 | <hr/> 16 | <hr/> 16 |

GRAMMAR GRADE COURSE

Advisers: Dean of Education and Supervisor of Grammar Grade Courses.

As the name implies, this course is designed for those who expect to teach in the seventh and eighth grades. The subjects are largely specified, because the curriculum of the seventh and eighth grades is rather definite in character.

FIRST YEAR

| | Total | Autumn | Winter | Spring |
|----------------------------|-----------|-----------|-----------|-----------|
| Freshman English | 9 | 3 | 3 | 3 |
| Education | 15 | 5(4) | 5(6) | 5(1) |
| Drawing | 6 | --- | 3(3) | 3(4) |
| Music | 6 | 3(1) | 3(3) | --- |
| Physiology or Hygiene..... | 4 | 4 | --- | --- |
| Physical Education | 3 | 1 | 1 | 1 |
| Mathematics | 4 | --- | --- | 4(102) |
| Library Methods | 1 | --- | 1 | --- |
| | <u>48</u> | <u>16</u> | <u>16</u> | <u>16</u> |

SECOND YEAR

| | | | | |
|-----------------------------|-----------|-----------|-----------|-----------|
| Practice Teaching | 10 | 7 | 3 | --- |
| *Education or Elective..... | 8 | 5(13) | --- | 3(5) |
| English | 3 | 3(104) | --- | --- |
| Physical Education | 3 | 1 | 1 | 1 |
| English | 5 | --- | 5(105) | --- |
| Expression | 2 | --- | 2 | --- |
| History | 5 | --- | 5(104) | --- |
| Geography | 5 | --- | --- | 5 |
| Political Science | 5 | --- | --- | 5 |
| Electives | 2 | --- | --- | 2 |
| | <u>48</u> | <u>16</u> | <u>16</u> | <u>16</u> |

*An elective in some subject of which the student keenly feels the need is urged instead of Education 13.

Note—Physical education, library methods, and penmanship required of all students.

INTERMEDIATE GRADE COURSE

Advisers: Dean of Education and Supervisor of Intermediate Grade Course.

This course meets the needs of those who are to teach in grades four, five, and six. In these grades Geography is one of the outstanding subjects and is, consequently, given a prominent place.

FIRST YEAR

| | Total | Autumn | Winter | Spring |
|----------------------------|-----------|-----------|-----------|-----------|
| Freshman English | 9 | 3 | 3 | 3 |
| Education | 15 | 5(4) | 5(6) | 5(8) |
| Drawing | 6 | --- | 3(3) | 3(4) |
| Music | 6 | 3(1) | 3(3) | --- |
| Physiology or Hygiene..... | 4 | 4 | --- | --- |
| Physical Education | 3 | 1 | 1 | 1 |
| Mathematics | 4 | --- | --- | 4(102) |
| Library Methods | 1 | --- | 1 | --- |
| | <u>48</u> | <u>16</u> | <u>16</u> | <u>16</u> |

SECOND YEAR

| | | | | |
|-----------------------------|----|--------|--------|------|
| Practice Teaching | 10 | 7 | 3 | --- |
| *Education or Elective..... | 8 | 5(13) | --- | 3(5) |
| English | 8 | 3(104) | 5(106) | --- |
| Nature Study | 4 | --- | --- | 4(2) |

| | | | | |
|--------------------------|-----------|-----------|-----------|-----------|
| Physical Education | 3 | 1 | 1 | 1 |
| History | 10 | --- | 5(102) | 5(103) |
| Expression | 2 | --- | 2(1) | --- |
| Industrial Arts | 4 | --- | --- | 4 |
| | <u>49</u> | <u>16</u> | <u>16</u> | <u>17</u> |

*An elective in some subject of which the student keenly feels the need is urged instead of Education 13.

Note—Physical education, library methods, and penmanship, required of all students.

KINDERGARTEN-PRIMARY COURSE

Adviser: Supervisor of Primary Education.

In line with most advanced practice in education, this course purposes to unify the kindergarten with the work of lower elementary grades and is intended to meet the needs throughout the state for well trained kindergarten and primary teachers.

On account of the necessity for musical ability on the part of kindergarten teachers, in addition to other general requirements, those who expect to follow this particular line must be able to sing and play the piano reasonably well.

FIRST YEAR

| | Total | Autumn | Winter | Spring |
|--------------------------|-----------|-----------|-----------|-------------------|
| Elements of Music..... | 13 | --- | --- | 13 (3), (9), (11) |
| Freshman English | 9 | 3 | 3 | 3 |
| Education | 15 | 5(4) | 5(6) | 5(11) |
| Industrial Art | 2 | --- | --- | 2 |
| Drawing | 5 | --- | 3(1) | 2(2) |
| Music | 4 | --- | 4(2) | --- |
| Physical Education | 3 | 1 | 1 | 1 |
| Nature Study | 3 | --- | --- | 3 |
| Physiology | 3 | 3 | --- | --- |
| Elements of Music..... | 3 | 3 | --- | --- |
| | <u>47</u> | <u>15</u> | <u>16</u> | <u>16</u> |

SECOND YEAR

| | | | | |
|--------------------------|-----------|-----------|-----------|-------------------|
| Practice Teaching | 10 | 7 | 3 | --- |
| History | 3 | 3 | --- | --- |
| Physical Education | 3 | 1 | 1 | 1 |
| English | 8 | 3(102) | 5(103) | --- |
| Mathematics | 3 | 3 | --- | --- |
| Education | 13 | --- | --- | 13 (3), (9), (11) |
| Electives | 9 | --- | 7 | 2 |
| | <u>49</u> | <u>17</u> | <u>16</u> | <u>16</u> |

Note—Elective to be taken from the following groups in winter and spring quarters.

Literature and Dramatic Art.

History and Sociology.

Science and Mathematics.

Note—Physical education, penmanship, and library methods required of all students in this course.

HOME ECONOMICS COURSE

Advisers: Dean of Education and Head of Home Economics Department.

As the name implies, this course is designated for those who expect to teach Home Economics. Graduates of this course are prepared to teach Home Economics in the smaller high schools, as well as some other high school subjects. They are also prepared to teach Home Economics in the grammar grades.

FIRST YEAR

| | Total | Autumn | Winter | Spring |
|--------------------------|------------|-----------|------------|-----------|
| English | 9 | 3 | 3 | 3 |
| Chemistry | 15 | 5 | 5 | 5 |
| Home Economics | 8 | 3(2) | 2(4) | 3(1) |
| Art | 2½ | --- | 2½ | --- |
| Elementary Psychology | 5 | 5 | --- | --- |
| Education | 5 | --- | --- | 5(1) |
| Physical Education | 3 | 1 | 1 | 1 |
| Elective | 2 | --- | 2 | --- |
| | <u>49½</u> | <u>17</u> | <u>15½</u> | <u>17</u> |

SECOND YEAR

| | | | | |
|--------------------------------------|------------|------------|-----------|---------------|
| Foreign Language or History | 9 | 3 | 3 | 3 |
| Science | 6 | --- | 2(Phys.) | 4(Bacteriol.) |
| Home Economics | 20 | 6(6)(5) | 6(7)(8) | 8(14)(3) |
| Design and Color | 2½ | 2½ | --- | --- |
| Child Psychology | 3 | --- | 3 | --- |
| Education | 6 | 3(2) | 3(3) | --- |
| Physical Education | 3 | 1 | 1 | 1 |
| | <u>49½</u> | <u>15½</u> | <u>18</u> | <u>16</u> |

MANUAL ARTS AND AGRICULTURAL COURSE

This course is designed for those who expect to teach manual training and agriculture in the grammar grades or small high schools. The number of hours required in this course, in both manual training and agriculture, more than meets the State Department's requirement in these two subjects. Graduates of this course are not only able to teach manual arts and agriculture but can usually teach at least one or two other high school subjects. Students taking this course are advised to take 6 hours in Coaching Athletics, in their second year.

FIRST YEAR

| | Total | Autumn | Winter | Spring |
|--|-----------|-----------|-----------|-----------|
| English | 9 | 3 | 3 | 3 |
| Math. 1-Algebra or Foreign Language | 15 | 5 | 5 | 5 |
| Mechanical Drawing | 10 | 5 | 5 | --- |
| Elementary Woodwork | 5 | --- | --- | 5 |
| Freehand Drawing | 4 | 2 | 2 | --- |
| Elements of Design | 2 | --- | --- | 2 |
| Physical Education | 3 | 1 | 1 | 1 |
| | <u>48</u> | <u>16</u> | <u>16</u> | <u>16</u> |

| SECOND YEAR | | | | |
|--------------------------|----------|-----------|--------|-------|
| Psychology | 8 or 5 | 5 | 3 or | --- |
| Education | 11 or 9 | 2 (12) or | 2 (12) | 5 (1) |
| | | 3 (2) | 3 (3) | --- |
| Biology | 12 | 4 | 4 | 4 |
| Agriculture | 9 | 3 | 3 | 3 |
| Adv. Woodwork | 3 | --- | --- | 3 |
| Electives | 2 or 3 | --- | 2 or 3 | --- |
| Physical Education | 3 | 1 | 1 | 1 |
| | 48 or 44 | 15 or 16 | 16 | 16 |

SUPERVISOR'S COURSE IN PUBLIC SCHOOL MUSIC

This course is especially designed for those who wish to teach music in the grades and smaller high schools of the state. Graduates are usually prepared to teach from one to two other subjects in addition to music, if necessary. It is advised that the electives be taken in drawing. Those who complete this course will receive the special uniform county certificate as well as a college diploma.

| FIRST YEAR | | SECOND YEAR | |
|--------------------------------------|----|-------------------------------|----|
| English | 9 | English | 2 |
| Psychology | 5 | Sociology | 3 |
| Harmony | 9 | Political Science | 5 |
| Ear Training and Sight Singing | 6 | Principles of Education..... | 5 |
| Piano and Voice..... | 14 | Harmony | 9 |
| Physical Education | 3 | History of Music..... | 6 |
| Electives | 2 | Music Methods | 6 |
| | | Music Form | 2 |
| | | Physical Education | 3 |
| | | Piano, Voice or Elective..... | 7 |
| | 48 | | 48 |

Students preferring the course leading to a third grade state certificate will take an additional 10 hours in Education and will elect 10 hours in the College of Liberal Arts, omitting other subjects to that extent.

For four-year course in Public School Music and Description of Music courses see under School of Fine Arts.

SUPERVISOR'S COURSE IN ART

As the name implies, this course is designed for those who expect to teach art in the grades and public schools. An intensive emphasis is put upon the different forms of art necessary for training in appreciation, and development of reasonable skill. Students who complete this course will be granted the special uniform county certificate which is transferable to any county in the state.

| FIRST YEAR | | | |
|----------------------|---|------------------------|----|
| Autumn Quarter | | Winter Quarter | |
| Hist. of Archtr..... | 2 | Hist. of Sculpture.... | 2 |
| Freehand Drawing.. | 5 | Drawing from Cast | 6 |
| Mech. Drawing..... | 2 | Working Drawings.. | 2 |
| English | 3 | Perspective | 2 |
| | | Spring Quarter | |
| | | Hist. of Painting.. | 2 |
| | | Theory of Color & | |
| | | Design | 2½ |
| | | Water Color..... | 2½ |

| | | | | | |
|----------------|-------|----------------|-------|-------------------|-------|
| Elective | 2 | English | 3 | Perspective | 2 |
| | | Elective | 2 | Pose Drawing..... | 1 |
| | | | | English | 3 |
| | | | | Elective | 2 |
| | <hr/> | | <hr/> | | <hr/> |
| | 15 | | 17 | | 15 |

SECOND YEAR

| | | | | | |
|------------------------|-------|----------------------|-------|---------------------|-------|
| Hist. of Painting..... | 1 | Technical work..... | 1 | Tech. and Rev. | |
| Technical work, | | Drawing or color.... | 5 | work | 6 |
| Draw. and Color.. | 3 | Meth., prac., teac., | | Outlines & course | |
| Pose Drawing | 1 | and observation.... | 5 | of study for | |
| Applied Design..... | 3 | Education | 5 | grades | 3 |
| Methods | 2 | | | Methods | 1 |
| Psychology | 5 | | | Social Science..... | 5 |
| | <hr/> | | <hr/> | | <hr/> |
| | 15 | | 16 | | 15 |

DESCRIPTION OF COURSES

EDUCATION AND PSYCHOLOGY

1. SCHOOL MANAGEMENT. 5 hours, spring quarter.

The problems of efficient school administration and the best means of securing modern educational objectives.

2. HISTORY OF EDUCATION. 3 hours, autumn quarter.

A brief history of the entire field of education, with the emphasis on the theories and achievements of the past as an aid to the appreciation of the present.

3. PHILOSOPHY OF EDUCATION. 3 hours, winter quarter.

This course deals somewhat intensively with the fundamental elements upon which education is based. Both the sociological and psychological principles are discussed.

4. ELEMENTARY PSYCHOLOGY. 5 hours, autumn quarter.

This course is concerned with the facts of attention, nervous and motor activities and their inter-rations, and the cognitive processes—sensation, perception, imagination, memory, conception, and thinking. The laws of learning will be stressed. Outside reading is required.

5. STANDARD TESTS AND MEASUREMENTS. 3 hours, spring quarter.

Those tests, scales, and statistics which every efficient teacher should use in the grades are studied. The most practical of these measurements are given to the members of the class in order that they may be trained in the technique of giving tests.

6. EDUCATIONAL PSYCHOLOGY. 5 hours, winter quarter.

A continuation of Course 4 and deals principally with mental measurement, and includes the study of modern mental tests with special emphasis upon the uses and administration of those tests most appropriate for grade pupils. Teachers will observe actual demonstration of mental tests and will also be required to give mental tests to at least three pupils. The course also includes an examination of the psychological characteristics of the three periods of infancy, childhood, and adolescence, and an application to them of the psychological principles learned in Course 4.

7. MENTAL TESTS AND MEASUREMENTS. 3 hours, spring quarter.

The value of the individual and group intelligence tests; a discussion of the best standard high school tests and how to use them.

8. HIGH SCHOOL CURRICULUM. 3 hours, autumn quarter.

An intensive course dealing with what should constitute a modern high school curriculum. The merits claimed for each subject in the curriculum are critically analyzed. Bulletins and reports of the N. E. A. committees supplement the text used.

9. HISTORY OF MODERN ELEMENTARY EDUCATION. 5 hours, spring quarter.

The main part of this course will be devoted to such subjects as the development of the vernacular elementary schools, the early religious basis of elementary and secondary schools, and the causes that brought about the change to a secular basis. It involves a brief study of the educational philosophy of such men as Comenius, Locke, Rousseau, Pestalozzi, Froebel, and Herbart. A study is made also of the development and underlying principles of the kindergarten and its place in the modern school.

10. HIGH SCHOOL METHODS. 3 hours, winter quarter.

The whole problem of economy in learning as applied to high school pupils; the needs of the adolescent student.

11. PRINCIPLES OF TEACHING AND OBSERVATION. 5 hours, spring quarter.

The aim of this course is to teach the principles underlying the methods of maintaining discipline, interest, the motivation of school work, the conduct of the recitation, school room management, and use of devices for seat work. Special emphasis will be placed on methods of preparation and presentation of subject matter. Plan writing of the types of lessons is taught. One observation a week in the city schools is included in this course. A comparison is made of present day methods and texts in reading. The value of phonics and development of silent reading are stressed.

12. PRACTICE TEACHING. 10 hours, fall and winter quarters.

Fall term and half of winter term, covering one semester of Des Moines public schools where the teaching will be done under direct supervision of the regular room teacher and the head of the Primary Department. Plans for lessons must be submitted to both the regular room teacher and the head of the Primary Department. Class discussion of the merits and demerits of the student's practical teaching will be featured twice each week.

13. HISTORY OF MODERN EDUCATION. 5 hours, autumn quarter.

A historical study of the principles of education growing out of the development of educational and social ideals represented by the different educational movements in modern times. An attempt is made to study the meaning of accepted principles by tracing them to their sources.

14. VOCATIONAL GUIDANCE. 5 hours, autumn quarter.

This course will deal with the problems of vocational guidance. A text book will be used but most of the reading will consist of government and industrial reports. Statistics showing the possibilities of several of the most called-for vocations will receive major emphasis. Both psychological and the sociological factors affecting vocational guidance will be touched upon.

15. PRINCIPLES OF EDUCATION APPLIED. 3 hours, spring quarter.

This course will emphasize the application of the principles which have been discussed in a theoretical manner in previous courses. Lesson plans, outlines, and specific directions for teaching the several subjects form the core of this course.

DRAWING

1. PUBLIC SCHOOL DRAWING. 3 hours, winter quarter.

Use of water colors, crayons, pencil, theory of perspective, drawing from observation of simple objects.

2. BLACKBOARD SKETCHING. 2 or 3 hours, spring quarter.

The purpose of this course is to give the teacher some facilities in illustrating those points of the lesson that can best be presented in board illustration.

3. PRIMARY DRAWING. 3 hours, autumn and winter quarters.

4. GRADE DRAWING. 3 hours, spring quarter.

5. COMMERCIAL DESIGN. 3 hours, spring quarter.

Course 1 as a prerequisite. The industrial work in this course is a study of letter forms, proportion, spacing, and arrangement in connection with Gothic and Roman alphabet. Such common problems as advertisements, trade marks, labels, catalogue covers, and posters are given. Mediums: pencil, ink, and water colors.

Note—For other courses in Drawing see under College of Fine Arts.

ENGLISH

- 1a, b, c. FRESHMAN ENGLISH. 9 hours, throughout the year.

102. PRIMARY ENGLISH. 3 hours, autumn quarter.

(Open only to students specializing in primary work.) An elementary review of English Grammar. This course includes sentence structure and analysis, punctuation, capitalization, paragraphing, inflections, letter-writing, and the correct use of words and such other grammatical usages as the teacher in the primary grades needs special training upon.

103. PRIMARY STORY TELLING. 5 hours, winter quarter.

This course consists of practice in story telling and dramatization of fairy tales, folk tales, Bible stories, animal and realistic stories. There will also be a study of gems of literature suited to the primary child and the use that can be made of jingles, rhymes, etc. This course aims primarily to give the teacher a basis for the appreciation, selection and presentation of suitable material for the primary grades.

104. TEACHER'S GRAMMAR. 3 hours, autumn quarter.

A rapid academic review of the subject will form the major portion of the work for the first two or three weeks of the course. In connection with analysis and composition of sentences, attention will be given to the common errors in speech and writing which the teachers in the public schools are most frequently called upon to correct. Oral English will be emphasized along the following lines: material, uses, and principles of economical practice. Dramatic Art will be touched upon. Model lesson plans will also be suggested for teaching special topics. Required of all students in both the Intermediate and Grammar grade courses.

105. TEACHER'S COMPOSITION. 5 hours, winter quarter.

This aims to prepare students for teaching composition in the grammar grades and high school. It includes a study of theme-subjects, methods of making assignments, criticism and rating of papers, oral composition, picture work, vocational English, correlation and cooperation, course of study, text books, and other matters vital to effective composition work. It is carried on by outside reading, discussions, observation of composition classes, and the making of model lessons. Special students of English and all others who have done satisfactory work in Freshman Composition are eligible to the course. This work is credited as a teachers' course and will be offered one hour each term.

106. LITERATURE FOR THE INTERMEDIATE AND GRAMMAR GRADES. 5 hours, winter quarter.

In this course the literature studied is that suitable for the intermediate and grammar grades. Myths, Bible stories, tales of adventure, chivalry, romance, and history, simple narrative and lyric poetry, are read and discussed with reference to their literary qualities, their fitness for various grades, and the best methods for their presentation. This course is required of Sophomores, upon the General Curriculum, who are making English their major or minor elective, and may also receive degree credit. English 1 must precede English 106.

107. METHODS OF TEACHING HIGH SCHOOL LITERATURE. 2 hours, spring quarter.

This course will emphasize the kind of literature, as well as the economical methods of presentation, to be used in high school. All teachers in the four-year course who are majoring in English will be required to take this course.

Note—For other courses see under College of Liberal Arts.

EXPRESSION

1. TEACHERS READING. 2 hours, winter quarter.

The aim of this course is preparation for the teacher of reading and of oral English. It consists of a study of the elements of vocal expression and the steps essential to a systematic course of reading in the grades. A discussion of the method of Intermediate and Grammar grade reading and of the relation of the reading work to literature will be emphasized. The part that oral English should play in correlation with literature and composition will be specially featured. Students who have had no experience in teaching should, if possible, postpone this course until they have had Psychology.

2. PUBLIC SPEAKING. 3 hours, winter quarter.

This is a course in public speaking and is adopted to the needs of those who have had little or no experience in speaking before an audience. Not only will the principles and practice of parliamentary procedure be dealt with but emphasis will be placed upon debating, after-dinner speeches, and short original talks.

3. ARGUMENTATION AND DEBATING. 2 hours, spring quarter.

This course aims to discuss those principles of argumentation and debating that are of absolute necessity. Regular platform debates upon the leading issues of the day will form a prominent part in this course. Special attention is given to the logical and effective arrangement of arguments and an easy, forceful delivery.

Note—For other courses see under the College of Liberal Arts and the School of Fine Arts.

GEOGRAPHY

1. TEACHERS' COURSE. 5 hours, spring quarter.

Countries are regarded as groups of men under on government together with the portion of the earth they have in actual use. The distribution of men over the earth is regarded as the most important item of geography, and modern conceptions of such things as cities and countries are here explained. Climate figures a good deal in the course, especially in so far as the explanation of rainfall is concerned, for the distribution of rainfall over the earth enables man to live and thrive best in favored localities. The old-time teaching about the climates of the earth, for instance, has the merit of simplicity, but it is often the simplicity of ignorance, teaching what simply is not so, as that the equatorial regions are excessively hot, that Europe is given

a mild climate by the Gulf Stream and that winds are cooled by snow-capped mountains. Of recent years abundant measurements and careful observations enable us to describe climates with some accuracy, and illustrate the chief principles that control them. Enough exercises are given in simple map drawing to enable the students to use maps better. It is believed this course gives a sound foundation both for elementary teaching and for further study of geography.

2. GEOGRAPHY OF THE UNITED STATES. 3 hours, autumn quarter.

Prerequisite: Course 1.

3. COMMERCIAL GEOGRAPHY. 3 hours, winter quarter.

This course treats of the geographic control on the production and exchange of such commodities as cotton, wheat, iron, copper, wool, and manufactured articles, to develop the principles underlying and guiding commercial activities. Smith's Commerce and Industry and Jefferson's Atlas of Commercial Values.

HISTORY

101. HISTORY FOR THE PRIMARY GRADES. 3 hours, autumn quarter.

This course is to aid the primary teacher in the use of elementary historical material and the development of social relations in family, school, and state. It will consist of a study of man's development from primitive life and institutions to modern civilization. Katherine Dopp's books will be used for the beginning of this course.

102. HISTORY OF GREEK, ROMAN, AND MEDIAEVAL PERIODS. 5 hours, winter quarter.

The aim of this course will be to study the outstanding features and institutions of the Greek, Roman, and Mediaeval people which are still existing and influencing our present civilization. Dynasties, wars, and those phases of political history which would not throw light upon the interpretation of our present life will be neglected. This course will especially emphasize what methods and text books may be employed to teach Greek, Roman, and Mediaeval History to children in grades four, five, or six.

103. THE AMERICAN COLONIES. 5 hours, spring quarter.

The aim of this course will be to emphasize the social life and industries of the American colonies. Great emphasis will be placed upon tracing the evolution of many of our modern institutions and customs. Colonial wars and other facts in history which do not affect our present social life will be neglected. An attempt will be made to select text books, problems and projects bearing on colonial history which may be suitable for children in the intermediate grades.

104. TEACHERS' HISTORY. 5 hours, winter quarter.

This course begins with the close of the American Revolution and continues through to the present. A text book with reference work, lectures on history, and methods of observation work in the grades are discussed in this course.

105. TEACHERS' HISTORY FOR JUNIOR HIGH SCHOOL. 3 hours, spring quarter.

A course on the teaching of History and Civics in the junior high school. Attention will be given to the course of study, collateral reading and selection of text books. History 104 is a prerequisite.

Note—For other courses see under College of Liberal Arts.

INDUSTRIAL ART

1. INDUSTRIAL ART. 2 hours, spring quarter.

In this course will be given projects in clay, paper, cardboard and textiles, as well as others related to the various subjects of the grades

and the observation of holidays. Some study will be given to man's use of raw materials in providing food, clothing, and shelter. This will lead up to the outline for the third grade geography. A fee of \$1.50 will be necessary for the materials.

2. **INDUSTRIAL HANDWORK.** 4 hours, spring quarter.

The purpose of this course is to give the student a knowledge of the projects and materials suitable for children in the primary grades. Problems are developed in elementary book-binding, including repairing and rebinding of books, in chair caning, and in the utilization of numerous materials in basketry. Considerable emphasis is given to the outlining of courses and the history of some of our colonial industries as related to the industries of the present.

Note—For other courses, see Manual Arts under the College of Engineering.

MANUAL ARTS

(See under College of Engineering.)

MATHEMATICS

101. **MATHEMATICS.** 3 hours, autumn quarter.

A history and pedagogy of the subject and a review of the essentials necessary for the elementary schools. Methods, as well as content, will be emphasized.

102. **HISTORY OF MATHEMATICS.** 4 hours, spring quarter.

This course is designated to show the students how the several subjects which he is to teach in Mathematics have developed. Much outside reading from library and reports is necessary. A rapid review of the content of Mathematics to be taught will occupy about 3 weeks of the quarter. Methods also will be stressed.

Note—For other courses see under College of Liberal Arts.

MUSIC

1. **ELEMENTS OF MUSIC.** 3 hours, autumn quarter.

This course prepares the grade teacher to give music instruction in the lower grades and offers practice work in sight reading.

2. **PRIMARY MUSIC METHODS.** 4 hours, winter quarter.

Emphasis will be placed upon the following topics: protection and development of the child voice; how to train monotones; how to teach rote songs, observation songs, and their purpose; melodic and rhythmic development; notation to the song and music reading; memorization of seasonal songs; some rhythmical work will also be given.

3. **METHODS.** 2 hours, autumn and spring quarters.

Song material; methods of presentation of songs; study of elementary and advanced technical problems; organization of grammar and high school orchestras. The aim of this course is to form a basis of definite instruction out of which will develop a sound musical education for the child in the public schools. The course offers definite methods of procedure in teaching music in the public schools.

Note—For other courses see under College of Fine Arts.

PHYSICAL EDUCATION

PHYSICAL EDUCATION. 1 hour, required throughout the Freshman and Sophomore years. Primary work should include plays and games.

PHYSIOLOGY

1. **SCHOOL HYGIENE.** 4 hours, autumn quarter.

A text-book course supplemented by lectures and library work on the main topics of hygiene. The object of the course is to interest and

inform prospective teachers regarding modern methods of health administration and health instruction in the grades of the public schools.

2. **PHYSIOLOGY.** 4 hours, autumn quarter.

A study of the normal physiological processes in man, with special emphasis upon preventive medicine, sanitation and social hygiene. It furnishes a foundation for a better appreciation of the courses in psychology, sociology, and education, and will enable the teacher the better to safeguard the health of her pupils and to instruct them in hygiene.

SCIENCE

1. **NATURE STUDY.** 3 hours, spring quarter.

Special attention is given to the study of domestic animals, plants, birds, trees, and the native wild life, together with its adaptation to its environment.

2. **ELEMENTARY SCIENCE FOR GRADE AND RURAL SCHOOLS.** 4 hours, spring quarter.

A special course planned for those preparing to teach in the grades. A selected list of topics will be presented especially applicable to the country environment and presented in the most practical manner possible. Five recitations per week are required, one of which is a field excursion.

Note—For other courses see sciences under College of Liberal Arts.

SOCIAL SCIENCE

1. **POLITICAL SCIENCE.** 5 hours, spring quarter.

This course resupposes a high school course in American History and Government. The elements of political science, certain present questions in government, and some especially difficult points in our own government will be studied. The course aims to prepare students for good citizenship and to aid them in their future work in training young citizens.

2. **SOCIOLOGY.** 3 hours, autumn quarter.

This course discusses the theories of sociology and emphasizes the bearing of sociological theory on education and shows how historical knowledge is illumined by an analysis of the evolution of society.

Note—For other courses see under College of Liberal Arts.

COLLEGE OF ENGINEERING

INTRODUCTORY STATEMENT

The College of Engineering has developed from the Department of Engineering of Highland Park College, which was taken over by the Trustees in 1918 and reorganized as a college in Des Moines University. Its location in the City of Des Moines, with its many and varied industries, is ideal for an engineering college, as it gives the student an opportunity for close contact with the work of his profession throughout his course.

The aim of the College of Engineering is to train men for the profession of engineering in the broadest sense. Its courses have been planned with the expectation that the student in his contact with his fellow students and faculty in the atmosphere and activities of the University may not only acquire the technical knowledge necessary for the successful pursuance of his profession, but that he may also acquire high standards of living and a feeling of responsibility in his moral and civic relationships.

The instruction of the classroom is closely correlated with practice in the shops and laboratories. Throughout this course the student works on problems and proceeds by methods similar to those which arise in the experience of the practicing engineer. It is believed that a thorough training in English, drawing, mathematics, mechanics, and the sciences is the first requirement of any engineering course. To this end the first years of all courses are practically identical and consist largely of these fundamental subjects. In the upper classes a certain degree of specialization is deemed advisable and the professional courses are introduced. Those who wish to elect a foreign language are given an opportunity to do so in each of the courses. The study of a foreign language is advised for those who expect to enter the foreign service.

REQUIREMENTS FOR ADMISSION

For requirements for admission in the University in general, see pages 31 and 32.

Requirements for unconditional admission to any of the courses in engineering consist of 15 units (30 credits), as follows:

| Required: | Units |
|------------------------|-------|
| Algebra | 1½ |
| Plane Geometry | 1 |
| Solid Geometry | ½ |
| English | 3 |
| History | 1 |
| Physical Science | 1 |
| | <hr/> |
| | 8 |
| Electives | 7 |
| | <hr/> |
| Total units | 15 |

Students without third-semester algebra or solid geometry will be admitted conditionally, but must remove the conditions during the first year in residence.

The elective units may be taken from the usual high school studies. Among those most desirable as a preparation for good work in the engineering courses are: advanced grammar, literature, civics, economics, history, commercial arithmetic, higher arithmetic, physiology, commercial law, chemistry, bookkeeping, drawing, manual training, foreign language.

COURSES OF STUDY AND DEGREES

The College of Engineering offers five four-year courses, as follows:

- Architectural Engineering
- Chemical Engineering
- Civil Engineering
- Electrical Engineering
- Mechanical Engineering

Students who satisfactorily complete any of the above four-year courses are graduated with the degree of Bachelor of Science, the diploma designating the course taken.

The above courses may also be taken as five-year courses leading to the same degree, or to a Liberal Arts degree if the necessary adjustments are made. The additional year will enable the student to broaden his education by taking a large amount of work in the College of Liberal Arts.

A student who has completed one of the engineering courses can usually complete any one of the remaining engineering courses by an additional year and thereby earn his B. S. degree in that course also.

PROFESSIONAL DEGREES

Graduates from any of the four-year courses in engineering may receive the full professional degree of Civil Engineer, Electrical Engineer, Mechanical Engineer, Chemical Engineer, or Architectural Engineer, after five years of engineering work in a position of responsibility and the presentation of an acceptable thesis. Each applicant for a professional degree must have his application and thesis subject on file at the College not later than April 1. The finished thesis, together with a concise, though complete, record of his engineering experience must be in the hands of the Dean of the College of Engineering not later than May 15.

ENGINEERING LABORATORIES

The Departments of General Engineering, Drawing, and Architectural Engineering Drawing and Design, are located on the fourth and fifth floors of the Administration Building. The mechanical drafting room contains twenty-four drafting tables of latest design, equipped with individual lockers for boards and tools sufficient for four sections of students. The freehand drawing studio is supplied with adjustable drawing easels and model stands and a good collection of casts, models and prints.

The Department of Chemical Engineering is located in Science Hall in the laboratories of the Department of Chemistry.

The equipment of the Department of Civil Engineering, which consists of Y and dumpy levels, plane and solar transits, plane table, compasses, astronomical telescope, tapes, chains, poles, leveling rod, etc., is housed on the ground floor of Childs Hall.

The electrical laboratories are located on the ground floor of Childs Hall. The equipment of this department is of high grade and embodies the latest ideas in arrangement for testing the various types of direct and alternating current apparatus. In this laboratory are found two five-killowatt rotary converters, capable of furnishing either single-phase, two-phase or three-phase current, and one single-phase alternating current generator, one three-phase and one single-phase induction motor, one ten-horse-power auxiliary-pole motor, two ten-horse-power shunt motors, one five-horse-power and one two-horse-power shunt motor, five transformers and about fifty high-grade electrical engineering measuring instruments. These last consist of voltmeters and ammeters for direct current and alternating current, wattmeters and watthours meters. Among the auxiliary apparatus are portable lamp banks, water rheostats, prony brakes and choke coils to serve as loads to the machinery.

The machines are distributed about the room in pairs, one of each acting as a driver for the other. A controlling switchboard is located near each set, and all the necessary instruments, switches, circuit breakers and jacks are mounted here. These jacks are of special construction and all connections are made by plugs fitting into them.

In the electrical testing laboratory will be found a number of forms of delicate galvanometers, Wheatstone's bridges, ohm-meter, condensers, Siemen's synamometers, Reichenstalt standard resistance, Clark standard cell, a photometer, foot candle meter, and other apparatus.

The department has also installed a powerful wireless station, equipped for receiving and sending messages.

In the Engineering Laboratories Building is found the laboratory for testing materials of construction, such as wood, stone, concrete, brick, tile, steel, and iron. It is equipped with a standard concrete testing machine with auxiliary apparatus necessary for testing concrete, a 30,000-pound Olsen Universal testing machine, motor-driven, with extensometer attachment, for testing materials in tension, compression, shear, and flexure.

In this building are also located the mechanical engineering laboratory and power plant and the engineering shops, which include wood and pattern shop, forge shop, foundry, machine shop and Department of Auto Mechanics. The mechanical engineering laboratory and power plant contains 3-150 H. P. high pressure boilers, a 300 H. P. Cochrane feed water heater, feed and vacuum pumps, storage tank, 150 H. P. 16x14 Ideal engine, connected to a 100 k.w. 3-wire D. C. generator; a 50 H. P. Murray-Corliss engine, 10 H. P. Otto gas engine and several small gasoline, oil and steam engines, equipped with brakes, calorimeters, gages and other auxiliary apparatus for testing purposes.

The wood shop is fully equipped with the following modern machine tools: Crescent Universal saw table, equipped with rip and cut-off saws and dado heads, and driven by 2 H. P. Western Electric motor; a 36" Fay & Egan band saw driven by 3 H. P. Westinghouse motor; a 24" Sidney planer, driven by 2 H. P. Western Electric motor; an 8" Sidney joiner, driven by 1½ H. P. Roth motor; a 12"x8' Oliver pattern lathe with motor head; 6 motor head Oliver turning lathes; a power hollow chisel mortiser; a small disc sander; a 24" grindstone, a double end emery stand; an Oliver bench trimmer; a 2-quart electric glue heater; 17 benches with rapid acting vises and complete individual equipment for 17 students, besides clamps, gluing bench and general equipment required by the students in this department.

The machine shop equipment consists of the following machine tools:

15—14"x6' Sebastian engine lathes.

1—16"x8' geared head, quick change gear, Monarch lathe.

- 1—16"x8' cone head, quick change gear, Monarch lathe.
- 1—Turret lathe.
- 1—34" Colburn vertical boring mill, complete, with Universal chuck and attachments.
- 1—Brown & Sharpe milling machine.
- 1—16" shaper.
- 1—20" shaper.
- 1—30"x30"x8' planer.
- 1—Landis Universal grinder.
- 1—Cutter grinder.
- 1—Wilmarth & Mormon drill grinder.
- 5—Speed lathes.
- 1—Punch press.
- 4—Drilling machines and complete assortment of small tools.

The forge shop has 18 Buffalo forges with power exhaust fan and blower; 1 portable rivet heating forge, anvils, tongs, hammers, swage blocks and other small tools, and Oxy-Acetylene welding and cutting equipment.

The foundry equipment consists of a one ton Colliau cupola, with motor-driven pressure blower and charging platform; No. 2 brass furnace, portable core oven; 2 Farwell Portable molding machines; 1 300-pound ladle; 1 100-pound ladle and a complete assortment of common and snap flasks, riddles, shovels, bellows and other molding equipment sufficient for a class of 15 students.

The Auto Mechanics Department is equipped to handle classes in vulcanizing, storage battery, starting and lighting, engine and chassis, and general automobile repair work.

SUMMER VOCATION WORK

All engineering students are required to take summer vocation work in addition to the work of the four academic years, as listed in the outline of the courses. This contact with engineering is of great benefit to the student during the latter part of his course, as it enables him to work from the viewpoint of the engineer.

INSPECTION TRIPS

Inspection trips, for visiting industrial plants, are required of all engineering students during the Senior year. These trips are arranged and conducted by the members of the faculty and are for the purpose of acquainting the student with engineering projects and works of note.

FRESHMAN LECTURES

The University has provided a course of lectures for Freshman engineering students. This course is for the purpose of giving the student an adequate conception of the various kinds of engineering work in order that he may choose wisely the course for which he is best fitted. The course also covers the kinds of training and methods of study to secure the best results from the courses the student selects. The course also includes lectures on subjects of more general interest.

OUTLINE OF COURSES IN ENGINEERING

In the following manifests of courses, the designation A. E. refers to courses in Architectural Engineering; Chem. E., to Chemical Engineering; C. E., to Civil Engineering; E. E., to Electrical Engineering, and M. E., to Mechanical Engineering. The numerals designate the courses, and the letters a, b, c, designate the autumn, winter, and spring quarters, respectively.

CURRICULUM IN ARCHITECTURAL ENGINEERING

FRESHMAN

| Autumn Quarter | Winter Quarter | Spring Quarter |
|--------------------------|-------------------------|-------------------------|
| Math. 1 Algebra..... 5 | Math. 2 Trig..... 5 | Math. 3 Analytics.... 5 |
| Engl. 1a Rhetoric..... 3 | Engl. 1b Rhetoric.... 3 | Engl. 1c Rhetoric.... 3 |
| Chem. 1a Lect..... 3 | Chem. 1b Lect..... 3 | Chem. 1c Lect..... 3 |
| Chem. 2a Lab..... 2 | Chem. 2b Lab..... 2 | Chem. 2c Lab..... 2 |
| M.E. 1a Engr. Draw. 5 | M.E. 1b Engr. Draw. 5 | M.E. 1c Desc. Geom. 5 |
| Physical Training.... 1 | Physical Training.... 1 | Physical Training.... 1 |
| Engineering Lect.....R. | Engineering Lect.....R. | Engineering Lect.....R. |
| 19 | 19 | 19 |

SOPHOMORE

| | | |
|--|--|--|
| Math. 5 Calculus..... 5 | Math. 6 Calculus..... 5 | Math. 8 Calculus..... 2 |
| Physics 1a Lect..... 3 | Physics 1b Lect..... 3 | Physics 1c Lect..... 3 |
| Physics 2a Lab..... 2 | Physics 2b Lab..... 2 | Physics 2c Lab..... 2 |
| A.E. 1a History of Architecture 2 | A.E. 1b History of Architecture 2 | A.E. 1c History of Architecture 2 |
| C.E. 5 Mater. of Construction 2 | A.E. 2b Freehand Drawing 2 | M.E. 3 Mechanics.... 5 |
| C.E. 1a Surveying.... 4 | A.E. 4b Arch. Draw 2 | A.E. 4c Arch. Draw. 2 |
| Physical Training.... 1 | A.E. 3b Wk. Draw... 2 | A.E. 3c Wk. Draw... 2 |
| 19 | Physical Training.... 1 | Physical Training.... 1 |
| | 19 | 19 |

Summer Quarter

Commercial Architectural Construction 10 Weeks. 2 Credits.

JUNIOR

| | | |
|--|--|--|
| M.E. 4 Mechanics.... 4 | M.E. 5 Str. of Mechanics 5 | C. E. 10 Str. Detail.. 3 |
| C.E. 19 Mater. Lab. 2 | M.E. 14 Hydraulics.. 5 | A.E. 7 Graphics..... 2 |
| A.E. 5a Architect. Design .....2 or 3 | A.E. 5b Architect. Design .....2 or 3 | A.E. 5c Architect. Design .....4 or 5 |
| C.E. 21 Geology..... 5 | C.E. 9 Str. Stress.... 2 | E.E. 3 D. C. Mchy.... 5 |
| Language .....3 or 5 | Language .....3 or 5 | Language .....3 or 5 |
| 17 to 19 | 17 to 19 | 17 to 19 |

SENIOR

| | | |
|---|---|--|
| Inspection Trip .....R. | A.E. 10b Plumbing.. 2 | A.E. 11 Contracts & Specifications .. 2 |
| A.E. 8 Mech. Equip. Building 3 | E.E. 11b Illumin.... 4 | A.E. 12c Estimates.. 1 |
| C.E. 12a Str. Eng... 5 | C.E. 12b Str. Eng... 5 | M.E. 23 Heating & Ventilation 5 |
| C.E. 12 Masonry & Concrete 3 | C.E. 14 Reinforced Concrete 5 | C.E. 15 Concrete Design 3 |
| A.E. 9a Firep. Con... 2 | A.E. 9b Fireproof Construction 2 | A.E. 6 Arch. Design 5 |
| Elective 5 | 18 | 16 |
| 18 | | |

Suggested Electives

| | | |
|-----------------------|-----------------------|-------------------------------------|
| Psychology 5 | Ec. 1 Economics.... 5 | Political Science.... 5 |
| Tech. Writing 2 | Public Speaking.... 2 | Math. 6 Dif. Equa- tions 3 |
| History 5 | History 5 | Public Speaking 2 |
| Painting 3 | Applied Design..... 3 | |
| Modeling 3 | | |
| Applied Design..... 2 | | |

CURRICULUM IN CHEMICAL ENGINEERING

FRESHMAN

| Autumn Quarter | Winter Quarter | Spring Quarter |
|-------------------------|-------------------------|-------------------------|
| Math. 1 Algebra..... 5 | Math. 2 Trig..... 5 | Math. 3 Analytics.... 5 |
| Engl. 1a Rhetoric.... 3 | Engl. 1b Rhetoric.. 3 | Engl. 1c Rhetoric.... 3 |
| Chem. 1a Lect..... 3 | Chem. 1b Lect. 3 | Chem. 1c Lect..... 3 |
| Chem. 2a Lab..... 2 | Chem. 2b Lab..... 2 | Chem. 2c Lab..... 2 |
| M.E. 1a Engr. Draw. 5 | M.E. 1b Engr. Draw. 5 | M.E. 1c Desc. Geom. 5 |
| Physical Training.... 1 | Physical Training.... 1 | Physical Training.... 1 |
| Engineering Lect....R. | Engineering Lect....R. | Engineering Lect....R. |
| 19 | 19 | 19 |

SOPHOMORE

| | | |
|-------------------------------------|-------------------------|-------------------------|
| Math. 5 Calculus..... 5 | Math. 6 Calculus..... 5 | Math. 8 Calculus..... 2 |
| Physics 1a Lect..... 3 | Physics 1b Lect..... 3 | Physics 1c Lect..... 3 |
| Physics 2a Lab..... 2 | Physics 2b Lab..... 2 | Physics 2c Lab..... 2 |
| Chem. 3 Qual. Anal. Lecture 2 | Chem. 5 Quan. Anal. 2 | Chem. 7 Quan. Anal. 2 |
| Chem. 4 Lab..... 2 | Chem. 6 Lab..... 2 | Chem. 8 Lab..... 2 |
| Chem. 25 Mineralogy 3 | Chem. 20 Ch. Tech. 4 | M.E. 3 Mechanics.... 5 |
| Physical Training.... 1 | Physical Training.... 1 | Physical Training.... 1 |
| 18 | 19 | 17 |

JUNIOR

| | | |
|----------------------------|------------------------|--|
| M.E. 4 Mechanics.... 5 | M.E. 5 Mechanics.... 5 | M.E. 11 Thermodynamics 5 |
| Chem. 10a 4 | Chem. 11b Org. Ch. 2 | Chem. 16 Chem. of Food Products..... 4 |
| 11a Org. Chem..... 2 | 12b Org. Ch. Lab.... 2 | Chem. 106 4 |
| 12a Org. Chem. Lab. 2 | Chem. 106 4 | Language or Elec... 5 |
| Language or Elec... 5 | Language or Elec... 5 | 18 |
| 19 | 18 | 18 |

Summer Quarter

10 Weeks Commercial Chemical Engineering Experience. 2 Credits.

SENIOR

| | | |
|----------------------------------|--------------------------------|-------------------------------------|
| Inspection Trip.....R. | 19b Chem. Mach. Design 4 | 19c Chemical Plant Design 4 |
| 19a Ch. Machinery.. 4 | 18b Indust. Chem.... 3 | Chem. 23 Hist. of Chemistry 2 |
| 18a Indust. Chem.... 3 | M.E. 14 Hydraulics.. 5 | 18c Indust. Chem... 3 |
| Chem. 21 Phys. Chemistry 3 | Elec. Thesis 5 | Adv. Chem. Elec.... 5 |
| Chem. 22 Phys. Chemistry 2 | 17 | Elec. Thesis.....3 to 5 |
| E. E. 1..... 5 | | 19 |
| 17 | | |

Suggested Electives

| | | |
|---|--------------------------------|---------------------------------------|
| C.E. 21 Geology..... 5 | Ec. 1 Economics..... 5 | Political Science..... 5 |
| Psy. 1 Psychology.. 5 | 21 Physical Chem. Lect. 3 | Chem. 10 Adv. Analysis 2 |
| E.E. 1a Elect. & Mag. 5 | 22 Physical Chem. Lab. 2 | M.E. 15 Hydro Motors 3 |
| A.E. 8a Mech. Eqp. of Buildings 3 | A.E. 10 Plumbing.... 2 | Chem. 23 History of Chemistry 2 |
| Tech. Writing 2 | E.E. 8 E. E. Lab.... 3 | |
| | Public Speaking..... 2 | |

CURRICULUM IN CIVIL ENGINEERING

FRESHMAN

| Autumn Quarter | Winter Quarter | Spring Quarter |
|-------------------------|-------------------------|-------------------------|
| Math. 1 Algebra..... 5 | Math. 2 Trig..... 5 | Math. 3 Analytics.... 5 |
| Engl. 1 Rhetoric..... 3 | Engl. 1b Rhetoric.... 3 | Engl. 1c Rhetoric.... 3 |
| Chem. 1a Lect..... 3 | Chem. 1b Lect..... 3 | Chem. 1b Lect..... 3 |
| Chem. 2a Lab..... 2 | Chem. 2b Lab..... 2 | Chem. 2c Lab..... 2 |
| M.E. 1a Engr. Draw. 5 | M.E. 1b Engr. Draw. 5 | M.E. 1c Desc. Geom. 5 |
| Physical Training.... 1 | Physical Training.... 1 | Physical Training.... 1 |
| Engineering Lect....R. | Engineering Lect....R. | Engineering Lect....R. |
| 19 | 19 | 19 |

SOPHOMORE

| | | |
|--------------------------|-------------------------------------|-------------------------|
| Math. 5 Calculus..... 5 | Math. 6 Calculus..... 5 | Math. 8 Calculus..... 2 |
| Physics 1a Lect..... 3 | Physics 1b Lect..... 3 | Physics 1c Lect..... 3 |
| Physics 2a Lab..... 2 | Physics 1b Lab..... 2 | Physics 2c Lab..... 2 |
| C.E. 1a Surveying.... 4 | C.E. 1b Surveying.... 4 | C.E. 1c Surveying.... 3 |
| C.E. 5 Mat. of Con.... 2 | C.E. 3b Roads and Pavements 3 | C.E. 3c H'way Eng. 3 |
| C.E. 2 Topo. Draw... 1 | Physical Training.... 1 | M.E. 3 Mechanics.... 5 |
| Physical Training.... 1 | Physical Training.... 1 | Physical Training.... 1 |
| 18 | 18 | 19 |

Summer Quarter

10 Weeks or More Highway Engineering Experience. 2 Credits.

JUNIOR

| | | |
|--------------------------|--------------------------|-----------------------------------|
| M.E. 4 Mechanics.... 5 | M.E. 5 Mechanics.... 5 | C.E. 10 Str. Details.. 2 |
| C.E. 19 Mater. Lab. 2 | C.E. 6b Ry. Engr.... 3 | C.E. 6c Ry. Engr.... 3 |
| C.E. 7 Munic. Eng.... 2 | C.E. 9 Str. Stresses.. 2 | C.E. 11 St. Bridge Design 5 |
| M.E. 9 St. Boilers.... 3 | M.E. 9 Steam Eng... 3 | M.E. 15 Hydro M.... 3 |
| C.E. 21 Geology..... 5 | M.E. 14 Hydraulics.. 5 | E.E. 3 D. C. Mchy.... 5 |
| C.E. 8 Pract. Astn... 2 | 18 | 19 |
| | 18 | 19 |

Summer Quarter

Elective—Railway Location 10 Weeks or More. 2 Credits.

SENIOR

| | | |
|------------------------------------|--|--|
| Inspection Trip.....R. | C.E. 20b Adv. C. E. Lab. 2 | A.E. 11 Con. & Sp... 2 |
| C.E. 12a Str. Eng.... 5 | C.E. 12b Str. Eng.... 5 | C.E. 15 Con. Des.... 3 |
| C.E. 13 Masonry & Concrete 3 | C.E. 14 Reinf. Con... 5 | C.E. 18 Irr. & Dr.... 3 |
| C.E. 16 Water Sup... 3 | C.E. 17 Sew. Des.... 3 | Electives 5 |
| Economics 4..... 2 | C.E. 22b Thesis or Electives .....3- 5 | C.E. 22c Thesis or Electives .....3- 5 |
| Electives .....4- 5 | Electives .....3- 5 | 16-18 |
| 17-18 | 18-20 | |

Suggested Electives

| | | |
|--|--|--------------------------------------|
| Language .....3-5 | C.E. 23b Prin. of Mining 5 | M.E. 23 Heat and Ventilation 5 |
| Psy. 1 Psychology.... 5 | M.E. 21 Gas Power.. 2 | A.E. 12 Estimates.... 1 |
| Tech. Writing 2 | A.E. 9b Fireproof Construction 2 | C.E. 12c Str. Des.... 3 |
| A.E. 9a Fireproof Construction 2 | Language .....3-5 | Language .....3-5 |
| | Ec. 1 Economics..... 5 | Political Science 1... 5 |
| | Public Speaking 2 | Public Speaking 2 |
| | | C.E. 24 Water Purification 3 |

CURRICULUM IN ELECTRICAL ENGINEERING

FRESHMAN

| Autumn Quarter | Winter Quarter | Spring Quarter |
|-------------------------|-------------------------|-------------------------|
| Math. 1 Algebra..... 5 | Math. 2 Trig..... 5 | Math. 3 Analytics.... 5 |
| Engl. 1 Rhetoric..... 3 | Engl. 1b Rhetoric.... 3 | Engl. 1c Rhetoric.... 3 |
| Chem. 1a Lect..... 3 | Chem. 1b Lect..... 3 | Chem. 1c Lect..... 3 |
| Chem. 2a Lab..... 2 | Chem. 2b Lab..... 2 | Chem. 2c Lab..... 2 |
| M.E. 1a Eng. Draw. 5 | M.E. 1b Eng. Draw. 5 | M.E. 1c Des. Geom. 5 |
| Physical Training.... 1 | Physical Training.... 1 | Physical Training.... 1 |
| Engineering Lect.....R. | Engineering Lect.....R. | Engineering Lect.....R. |
| 19 | 19 | 19 |

SOPHOMORE

| | | |
|-------------------------|-------------------------|-------------------------|
| Math. 5 Calculus..... 5 | Math. 6 Calculus..... 5 | Math. 8 Calculus..... 2 |
| Physics 1a Lect..... 3 | Physics 1b Lect..... 3 | Physics 1c Lect. 3 |
| Physics 2a Lab..... 2 | Physics 2b Lab..... 2 | Physics 2c Lab..... 2 |
| M.E. 2a Forge Pr.... 3 | M.E. 2b Woodwork.. 3 | M.E. 2c Fdy. Prac... 3 |
| C.E. 1a Survey..... 4 | Chem. 20 Ch. Tech... 4 | M.E. 3 Mechanics... 5 |
| or *Language..... 5 | or *Language..... 5 | M.E. 6 Mechanism.. 2 |
| Physical Training.... 1 | Physical Training.... 1 | or *Language..... 5 |
| 18 or 19 | 18 or 19 | Physical Training.... 1 |
| | | 18 or 19 |

Summer Quarter

10 Weeks' Commercial Shop Experience. 2 Credits.

JUNIOR

| | | |
|--|---------------------------------------|-------------------------------------|
| C.E. 19 Mater Lab... 2 | M.E. 5 Mechanics.... 5 | M.E. 11 Thermody- namics 5 |
| M.E. 4 Mechanics.... 5 | M.E. 14 Hydraulics.. 5 | M.E. 15 Hydro M.... 3 |
| M.E. 9 St. Boilers... 3 | M.E. 10 Stm. Eng... 3 | E.E. 3 D. C. Mch.... 5 |
| M.E. 12 Mch. Work 3 | E.E. 2 Elect. and Mag. Meas..... 1 | Elective 5 |
| E.E. 1 Elect. and Magnetism 5 | Elective .....4 or 5 | 18 |
| 18 | 18 or 19 | |

SENIOR

| | | |
|-------------------------|--|--|
| E.E. 4 D. C. Mchy... 2 | E.E. 6 A. C. Mchy... 5 | E.E. 7 A. C. Mchy... 3 |
| E.E. 5 Alt. Current 3 | E.E. 8b Elect. Lab... 3 | E.E. 8c Elect. Lab... 3 |
| E.E. 8a Elect. Lab... 3 | E.E. 10b Elec. Des... 3 | E.E. 10c Elec. Des... 3 |
| M.E. 18 Mech. Lab... 2 | M.E. 19 Mech. Lab... 2 | E.E. 12 Pwr. Trns... 3 |
| E.E. 9 El. Railways 4 | E.E. 11 Illumintn.... 4 | E.E. 13c Thesis or Elective .....4 or 5 |
| Inspective Trip .....R. | E.E. 13b Thesis or Elective .....1 or 2 | 16 or 17 |
| Elective .....4 or 5 | 18 or 19 | |
| 18 or 19 | | |

Suggested Electives

| | | |
|--|--|---|
| C.E. 21 Geology..... 5 | Economics 5 | Political Science..... 5 |
| Psy. 1 Psychology.... 5 | A.E. 10 Plumbing... 2 | A.E. 11 Specifications and Contracts 2 |
| A.E. 8 Mech. Equip- ment of Buildings 3 | M.E. 22 Prin. of Management 3 | M.E. 17 Pwr. Plant Design 5 |
| Tech. Writing..... 2 | M.E. 13 Adv. Mch. Work 3 | Public Speaking 2 |
| | Public Speaking 2 | Math. 6 Dif. Equa... 3 |

*If language is elected in the Sophomore year it will be substituted for Calculus and Mechanism in the third quarter, the Calculus being deferred to a later period.

CURRICULUM IN MECHANICAL ENGINEERING

FRESHMAN

| Autumn Quarter | | Winter Quarter | | Spring Quarter | |
|------------------------|----|------------------------|----|------------------------|----|
| Math. 1 Algebra..... | 5 | Math. 2 Trig..... | 5 | Math. 3 Analytics..... | 5 |
| Engl. 1a Rhetoric..... | 3 | Engl. 1b Rhetoric..... | 3 | Engl. 1c Rhetoric..... | 3 |
| Chem. 1a Lect..... | 3 | Chem. 1b Lect..... | 3 | Chem. 1c Lect..... | 3 |
| Chem. 2a Lab..... | 2 | Chem. 2b Lab..... | 2 | Chem. 2c Lab..... | 2 |
| M.E. 1a Eng. Draw. 5 | | M.E. 1b Eng. Draw. 5 | | M.E. 1c Des. Geom. 5 | |
| Physical Training.... | 1 | Physical Training.... | 1 | Physical Training.... | 1 |
| Engineering Lect..... | R. | Engineering Lect..... | R. | Engineering Lect..... | R. |
| <hr/> | | <hr/> | | <hr/> | |
| 19 | | 19 | | 19 | |

SOPHOMORE

| | | | | | |
|-----------------------|---|-----------------------|---|-----------------------|---|
| Math. 5 Calculus..... | 5 | Math. 6 Calculus..... | 5 | Math. 8 Calculus..... | 2 |
| Physics 1a Lect..... | 3 | Physics 1b Lect..... | 3 | Physics 1c Lect..... | 3 |
| Physics 2a Lab..... | 2 | Physics 2b Lab..... | 2 | Physics 2c Lab..... | 2 |
| M.E. 2a Forge Prac. 3 | | M.E. 2b Woodwork.. 3 | | M.E. 2c Fdy. Prac.. 3 | |
| C.E. 1a Survey..... | 4 | Chem. 20 Ch. Tech.. 4 | | M.E. 3 Mechanics.... | 5 |
| or *Language..... | 5 | or *Language..... | 5 | M.E. 6 Mechanism.... | 2 |
| Physical Training.... | 1 | Physical Training.... | 1 | or *Language..... | 5 |
| <hr/> | | <hr/> | | Physical Training.... | 1 |
| 18 or 19 | | 18 or 19 | | <hr/> | |
| | | | | 18 or 19 | |

Summer Quarter

10 Weeks' Commercial Shop Experience. 2 Credits.

JUNIOR

| | | | | | |
|---------------------------------------|---|------------------------------------|---|-----------------------------------|---|
| C.E. 19 Mater. Test- ing Lab..... | 2 | M.E. 5 Mechanics.... | 5 | M.E. 8 Dynamics..... | 5 |
| M.E. 4 Mechanics.... | 5 | M.E. 7 Mech. of Machinery | 5 | M.E. 11 Thermody- namics | 5 |
| M.E. 9 St. Boilers... 3 | | M.E. 10 Stm. Eng.. 3 | | M.E. 15 Hydro M.... | 3 |
| M.E. 12 Machine Shop Practice..... | 3 | M.E. 14 Hydraulics.. 5 | | E.E. 3 D. C. Mach... 5 | |
| Elective | 5 | <hr/> | | <hr/> | |
| | | 18 | | 18 | |
| <hr/> | | | | <hr/> | |
| 18 | | | | | |

SENIOR

| | | | | | |
|-------------------------|----|--------------------------------------|---|--|---|
| M.E. 16a Mach. Des. 5 | | M.E. 16b Mach. Des. 5 | | M.E. 17 Pwr. Pl. Des. 5 | |
| E.E. 5 A. C. Mchy.... 3 | | M.E. 13 Adv. Mach. Work | 2 | M.E. 23 Heating & Ventilation | 5 |
| E.E. 8 D. C. Lab..... 2 | | M.E. 22 Prin. of Management | 3 | E.E. 12c Pwr. Trans. 3 | |
| M.E. 18 Pwr. Lab.... 3 | | M.E. 19 Pwr. Lab.... 2 | | M.E. 20 Pwr. Lab. or M.E. 16c Mach. Design | 2 |
| Inspection Trip | R. | M.E. 21 Gas Power.. 2 | | Elective or Thesis... 2 | |
| Elective | 5 | Elect. or Thesis.. 4 or 5 | | <hr/> | |
| <hr/> | | <hr/> | | <hr/> | |
| 18 | | 18 or 19 | | 17 | |

Suggested Electives

| | | | | | |
|--|---|--------------------------------------|---|---|---|
| C.E. 21 Geology..... | 5 | Economics | 5 | Political Science..... | 5 |
| A.E. 8a Mch. Equip- ment of Buildings 3 | | E.E. 11b Illumintn... 4 | | C.E. 10c Str. Det.... | 2 |
| Psychology | 5 | A.E. 10b Plumbing.. 2 | | A.E. 12 Estimates.. 2 | |
| Tech. Writing | 2 | Chem. Fuel & Gas.. 4 | | Public Speaking..... | 2 |
| | | C.E. 14 Reinforced Concrete | 5 | A.E. 11 Specifica- tions & Contracts 2 | |
| | | C.E. 9 Structural Stresses | 2 | Math. 6 Dif. Equa... 3 | |
| | | Public Speaking | 2 | | |

*If language is elected in the Sophomore year it will be substituted for Calculus and Mechanism in the third quarter, the Calculus being deferred to a later period.

DESCRIPTION OF COURSES

The notation, "Lects., 2; labs., 2, 3 hours," means two lectures per week, and two laboratory periods of three school hours each.

ARCHITECTURAL ENGINEERING

1a-b-c. HISTORY OF ARCHITECTURE. 2 hours, throughout the year.

From the Egyptian period to modern times; effects of local, political and economic conditions; influence of material, climate, and structural systems.

2b. FREEHAND DRAWING. 2 hours, winter quarter.

Drawing from cast, with pencil, charcoal and brush; outline, light and shade. Labs., 2, 3 hours; lab. fee, \$1.50.

3b-c. WORKING DRAWINGS. 2 hours, winter and spring quarters.

Drawing of plans and elevations, and drawing to large scale various building details. Preparation of complete sets of plans. Labs., 2, 3 hours.

4b-c. ARCHITECTURAL DRAWING. 2 hours, winter and spring quarters.

Pen, pencil and brush; lettering, shades and shadows. Study of the Orders, rendered plan and sketch problems. Library research. Labs., 2, 3 hours.

5a-b. ARCHITECTURAL DESIGN. 2 or 3 hours, autumn and winter quarters.

Advanced design; original problems. Labs., 2 or 3, 3 hours.

5c. ARCHITECTURAL DESIGN. 4 or 6 hours, spring quarter.

Continuation of 5a-b. Labs., 4 to 6, 3 hours.

6. ADVANCED DESIGN. 5 hours, spring quarter.

Final problem, a complete design for thesis. Labs., 5, 3 hours.

7. GRAPHIC STATICS. 2 hours, spring quarter.

Its application to trussed roofs, arches, domes, etc. The graphical representation of reactions, bending moments, shear and deflection of beams. Labs., 2, 3 hours.

8. MECHANICAL EQUIPMENT OF BUILDINGS. 3 hours, autumn quarter.

Theory and practice in designing, simple systems for buildings, covering, heating and ventilation, refrigeration, fire protection, vacuum systems, elevators, lighting, etc. Lects., 4; lab., 1, 3 hours.

9a-b. FIREPROOF CONSTRUCTION. 2 hours, autumn and winter quarters.

Study of various types, principles and design of fireproof construction. Labs., 2, 3 hours.

10b. PLUMBING. 2 hours, winter quarter.

Plumbing, sewage disposal, water supply, fixtures. Lects., 2.

11. CONTRACTS AND SPECIFICATIONS. 2 hours, spring quarter.

Law of contracts, practice in specification writing.

12. ESTIMATES. 1 hour, spring quarter.

Methods of estimating illustrated by problems.

CHEMICAL ENGINEERING

For a description of courses given in chemical engineering see list of courses under Department of Chemistry, College of Liberal Arts.

CIVIL ENGINEERING

1a. PLANE SURVEYING. 4 hours, autumn quarter.

The use of the tape, level and transit exercises in chaining, measuring angles, computing areas, and making scale drawings from the field notes. The course includes a transit survey and map of the campus. Lect., 1; labs., 3, 3 hours; lab. fee, \$3.50.

1b. PLANE SURVEYING. 4 hours, winter quarter.

Survey of United States public lands; leveling, transit and stadia, city, topographic, mining, plane table and geodetic surveying.

1c. ADVANCED SURVEYING. 3 hours, spring quarter.

Problems in field and drawing room work leveling, plane table survey of campus, and transit and stadia topographic survey of forty acres of land. Lect., 1; labs., 3, 3 hours; lab. fee, \$3.50.

2. TOPOGRAPHIC DRAWING. 1 hour, autumn quarter.

Devoted to the conventional signs used in topographic maps and the making of a map from notes obtained in 1a. Lab., 1, 3 hours.

3b. ROADS AND PAVEMENTS. 3 hours, winter quarter.

A study of the principles of the construction and maintenance of earth, gravel, macadam, concrete, brick and bituminous roads and pavements.

3c. HIGHWAY ENGINEERING. 3 hours, spring quarter.

Recitations covering preliminary investigations, location, design, foundations, drainage, comparison of roads and pavements, culverts, curbing, preliminary survey, cross sections, profile, excavation and materials required for a definite section of road. Lects., 2; lab., 1, 3 hours; lab. fee, \$3.50.

5. MATERIALS OF CONSTRUCTION. 2 hours, autumn quarter.

A study of the properties, uses, methods of manufacture and of testing of lime, cement, stone, brick, sand, timber, ores, cast iron, wrought iron, and steel.

6b. RAILWAY ENGINEERING. 3 hours, winter quarter.

A study of the principles underlying the construction and maintenance of railroads.

6c. RAILWAY ENGINEERING. 3 hours, spring quarter.

Recitations covering preliminary surveys, location, leveling, cross sections, and theory of curves, field problems in laying out curves. Lect., 2; lab., 1, 3 hours; lab. fee, \$3.50.

7. MUNICIPAL ENGINEERING. 2 hours, autumn quarter.

A study of city planning, lighting, street cleaning, snow removal, garbage disposal and parks.

8. PRACTICAL ASTRONOMY. 2 hours, autumn quarter.

The course deals with the practical application of astronomy in relation to the determination of time, latitude, longitude and azimuth. Problems will be assigned.

9. STRUCTURAL STRESSES. 2 hours, winter quarter.

Determination of stresses in roofs and bridges by algebraic and graphic processes.

10. STRUCTURAL DETAILS. 2 hours, spring quarter.

Design of details for roofs, bridges and steel frame buildings. Labs., 2, 3 hours.

11. STEEL BRIDGE DESIGN. 5 hours, spring quarter.

Design of a through plate girder railroad bridge, detail and assembly drawings and estimate of weight. Lect., 1; labs., 4, 3 hours.

12a. STRUCTURAL ENGINEERING. 5 hours, autumn quarter.

Design of a steel mill building or similar structure with special reference to eccentric loading and wind stresses, detail and assembly drawings. Lect., 1; labs., 4, 3 hours.

12b. STRUCTURAL ENGINEERING. 5 hours, winter quarter.

Design of a steel office building or similar structure with special reference to wind stresses and details; detail and assembly drawings. Lect., 1; labs., 4, 3 hours.

12c. STRUCTURAL ENGINEERING. 3 hours, spring quarter.

Design of a pin connected steel railroad bridge with detail and assembly drawings and estimate of weight. Labs., 3, 3 hours.

13. MASONRY AND CONCRETE. 3 hours, autumn quarter.

A study of brick and stone masonry and plain concrete structures, foundations of buildings and bridges, bridge piers and abutments, retaining walls and culverts.

14. RE-ENFORCED CONCRETE. 5 hours, winter quarter.

A study of the fundamental principles of re-enforced concrete design. Design of floor slab, beam, girder, column and footing for an assigned building, detail drawing and rod sheets. Lects., 2; labs., 3, 3 hours.

15. CONCRETE DESIGN. 3 hours, spring quarter.

Design of a re-enforced concrete highway bridge of two spans, detail and assembly drawings and rod sheets. Labs., 3, 3 hours.

16. WATER SUPPLY. 3 hours, autumn quarter.

Investigations regarding the sources and requirements of a city water supply. A study of the design and construction of water works systems.

17. SEWAGE DISPOSAL. 3 hours, winter quarter.

A detailed study of the various methods of treatment and disposal of sewage.

18. IRRIGATION AND DRAINAGE. 3 hours, spring quarter.

Study of the principles involved in the design and construction of irrigation and drainage projects.

19. MATERIALS LABORATORY. 2 hours, autumn quarter.

Testing properties of building stone, brick, cement, and concrete of varying proportions. Standard tests on steel, wood and other materials of construction. Labs., 2, 2 hours; lab. fee, \$3.50.

20. ADVANCED C. E. LABORATORY. 2 hours, winter quarter.

Special problems in testing of cement, concrete, brick, stone and steel. Labs., 2, 3 hours; lab. fee, \$3.50.

21. GEOLOGY. 5 hours, autumn quarter.

The surface features of the earth and their origin; the agencies and processes of geologic changes, formation of different classes of rocks; a study of the common rocks and minerals with special reference to their value in engineering.

22b. THESIS. 3 to 5 hours, winter quarter.

Each candidate for a degree in civil engineering must prepare and have bound, according to specifications furnished, a thesis on some subject related to his course of study. This may be in the nature of an investigation, design or a combination of both. The subject must be chosen and presented to the head of the department for approval, not later than the beginning of the second quarter of the Senior year, with an outline of its proposed development. The thesis must be completed at least three weeks before the time of graduation. Originality, in so far as the student is concerned, is a requirement.

22c. THESIS. 3 to 5 hours, spring quarter.

A continuation of 22b to its completion. Third quarter of Senior year.

23. PRINCIPLES OF MINING ENGINEERING.

Mine surveying, terminology, explosives and blasting; well and rock drilling; coal cutting; shaft sinking and tunneling; methods of working and timbering flat and inclined deposits.

24. WATER PURIFICATION.

A study of the various methods of water purification, and methods of the design and construction of water purification works.

ELECTRICAL ENGINEERING**1. ELECTRICITY AND MAGNETISM. 5 hours, autumn quarter.**

Advanced course in the study of laws underlying electricity and magnetism. Lectures, recitations and problems. Prerequisites, full Junior standing in engineering

2. ELECTRICAL AND MAGNETIC TESTING. 1 hour, winter quarter.

Advanced course in the testing and calibration of electrical instruments used in the laboratories. Lab., 1, 3 hours; lab. fee, \$3.50.

3. DIRECT CURRENT MACHINERY. 5 hours, spring quarter.

An advanced course in the general theory of the direct current generator and motor, armature windings, characteristic curves and the adaptation of the several types of direct current machinery to different industrial purposes. Lectures, recitations and practical problems.

4. DIRECT CURRENT MACHINERY. 2 hours, autumn quarter.

A continuation of 3. The storage battery and three wire systems are studied in detail.

5. PRINCIPLES OF ALTERNATING CURRENTS. 3 hours, autumn quarter.

The laws of alternating current circuits, vector diagrams of simple and complex circuits. Illustrated by numerous problems.

6. ALTERNATING CURRENT MACHINERY. 2 hours, winter quarter.

Theory and operation of alternating current generators, motors and transformers. Polyphase systems. Lectures and recitations. Prerequisite, 5.

7. ALTERNATING CURRENT MACHINERY. 3 hours, spring quarter.

A continuation of 6. Lectures and recitations.

8a. ELECTRICAL ENGINEERING LABORATORY. 3 hours, autumn quarter.

Practice in the operation, testing, and connecting up of direct current machinery; characteristic curves, efficiency tests, parallel operation of generators, and the study and use of electrical engineering instruments. Calculation of results and write-up of reports outside work. Prerequisite, 3. Labs., 2, 3 hours each. Lab. fee, \$3.50; lab. dep., \$2.00.

8b. ELECTRICAL ENGINEERING LABORATORY. 3 hours, winter quarter.

A continuation of 8a. The first part of the course completes the experiments with direct current machinery. The remainder takes up experiments with resistance, inductance and capacity in series and parallel; resonance, the effect of iron in alternating current circuits, and beginning experiments with alternating current machinery. Calculation of results and write-up of reports outside work. Prerequisite, 8a. Labs., 2, 3 hours each; lab. fee, \$3.50; lab. dep., \$2.00.

8c. ELECTRICAL ENGINEERING LABORATORY. 3 hours, spring quarter.

A continuation of 8b. Operation, performance and efficiency tests of alternating current machinery. Calculation of results and write-ups of reports outside work. Labs., 2, 3 hours; lab. fee, \$3.50; lab. dep., \$2.00.

9. ELECTRICAL RAILWAY ENGINEERING. 4 hours, autumn quarter.

Electric railway systems and apparatus; the design of feeder and trolley systems; and the determination of the proper equipment for a given service. Lectures, recitations and problems.

10b. DIRECT CURRENT DYNAMO DESIGN. 3 hours, winter quarter.

A complete set of calculations and drawings with specifications of a direct current machine are required for the completion of this course. Prerequisite, 3 and 4. Lects., 1 or 2; labs., 4 hours.

10c. ALTERNATING CURRENT MACHINE DESIGN. 3 hours, spring quarter.

A complete set of calculations and drawings with specifications of an alternator or induction motor and a transformer are required for the completion of this course. Prerequisite, 5 and 6. Lects., 1 or 2; labs., 4 hours.

11. ILLUMINATION. 4 hours, winter quarter.

Theory of illumination, natural and artificial lighting. Special emphasis is placed on the subject of electric lighting.

12. ELECTRIC POWER TRANSMISSION. 3 hours, spring quarter.

The principles underlying the layout of power-house and switchboard circuits of high voltage transmission and distributing systems, and the calculation and design of transmission lines. Lectures, recitations, and numerous practical problems.

13b. THESIS. 2 or 3 hours, winter quarter.

Original investigations along some special line in electrical engineering, such as the design and construction of some special apparatus or machine, the design with specifications of a power plant and distributing system, some critical study and test of a new type of electrical machine, the testing of power plants, or research work along special lines. Elective of Seniors in electrical engineering. The subject shall have been selected at the beginning of the second quarter.

13c. THESIS. 3 hours, spring quarter.

Continuation of Course 13b.

MECHANICAL ENGINEERING**1a. ENGINEERING DRAWING.** 5 hours, autumn quarter.

Elements of drafting; use of instruments, projections, conventions, lettering. Lects., 2; labs., 3, 3 hours.

1b. ENGINEERING DRAWING. 5 hours, winter quarter.

Machine drawing, detail and assembly drawing; tracing and blue-printing, drafting, office practice, lettering. Lects., 2; labs., 3, 3 hours.

1c. DESCRIPTIVE GEOMETRY. 5 hours, spring quarter.

Point, line and plane, sections and intersections, shades and shadows, perspective. Lects., 2; labs., 3, 3 hours.

2a. FORGE PRACTICE. 3 hours, autumn quarter.

General smithing operations, elementary metallurgy, management of forging plants. Labs., 3, 3 hours; lab. fee, \$5.00.

2b. WOOD SHOP PRACTICE. 3 hours, winter quarter.

Bench work and turning, millwork, management of furniture factories, millwork and pattern shops. Labs., 3, 3 hours; lab. fee, \$5.00.

2c. FOUNDRY PRACTICE. 3 hours, spring quarter.

Principles of pattern construction, pattern making, bench and floor moulding, cupola operation, foundry management and operation. Labs., 3, 3 hours; lab. fee, \$5.00.

3. MECHANICS. 5 hours, spring quarter.

Elementary statics and dynamics, theory of centre of gravity and moment of inertia comprise principally the first quarter's work. Analytic methods are more generally employed, supplemented by graphic constructions and numerous examples of practical application.

4. MECHANICS. 5 hours, autumn quarter.

Mechanics of materials; simple and direct stress; tension, compression, and shear; compound and flexural stresses; moment and shear diagrams; columns and struts.

5. **MECHANICS.** 5 hours, winter quarter.

Mechanics of motion; kinetics; dynamics; work, energy; power, and friction.

6. **MECHANISM.** 2 hours, spring quarter.

A detailed study of linkages, quick return motions, cams, gears, etc. Labs., 2, 3 hours.

7. **MECHANICS OF MACHINERY.** 5 hours, winter quarter.

Kinematics and Kinetics, instantaneous centers, velocities, velocity polygons and diagrams. Accelerations and acceleration polygons, Coriolis' law. Lects., 3; labs., 2, 3 hours.

8. **DYNAMICS OF MACHINERY.** 5 hours, spring quarter.

Study of the effect of motions of machine parts, momentum, inertia, kinetic energy, balancing of machines, gyroscopic action. Lects., 3; labs., 2, 3 hours.

9. **STEAM BOILERS.** 3 hours, autumn quarter.

A thorough study of the steam boiler from both the theoretical and practical viewpoint. The several classes of boilers, their construction, furnace details, boiler accessories and piping.

10. **STEAM ENGINES.** 3 hours, winter quarter.

The study of steam engines and turbines, both in construction and operation.

11. **THERMODYNAMICS.** 5 hours, spring quarter.

Starting with a knowledge of heat and its effects, this course covers the subject of thermodynamics and its application to heat engines, refrigeration and heating. The theoretical discussions are supplemented by a large number of practical problems. Prerequisites, Physics and Calculus.

12. **MACHINE SHOP PRACTICE.** 3 hours, autumn quarter.

Bench work in metal; practice in the operation of machine tools. Labs., 3, 3 hours; lab. fee, \$5.00.

13. **ADVANCED MACHINE WORK AND SHOP MANAGEMENT.** 2 hours, winter quarter.

Modern machine shop practice and management, manufacturing methods, planning, production, routing, dispatching, inspection, time studies; machine operation, assembling, testing. Labs., 2, 3 hours; lab. fee, \$5.00.

14. **HYDRAULICS.** 5 hours, winter quarter.

The principles of hydrostatic and hydrodynamic pressure, the flow of water through pipes, open channels and orifices, over weirs, and loss of pressure from friction and other sources.

15. **HYDRAULIC MOTORS.** 3 hours, spring quarter.

Continuation of 14. Considers mainly the study of impulse water wheels and reaction turbines, with respect to their construction, regulation and testing and to the various sources of loss of energy.

16a. **ELEMENTS OF MACHINE DESIGN.** 5 hours, autumn quarter.

Theory of engineering design, a study of the elements of a machine for strength, utility, etc., derivation of formulas for ration design; empirical design. Lects., 3; labs., 2, 3 hours.

16b. **MACHINE DESIGN.** 5 hours, winter quarter.

Continuation of Course 16a. Design of a complete machine as a punch, shear, press, crane, hoist, etc. Lects., 2; labs., 3, 3 hours.

16c. **EXPERIMENTAL DESIGN.** 2 hours, spring quarter.

Design and commercial application of special tools, jigs, fixtures, dies, and gauges used in modern production methods of manufacture. Labs., 2, 3 hours.

17. STEAM POWER PLANT DESIGN. 5 hours, spring quarter.

Layout and design of some form of a complete power plant. Lects., 3; labs., 2, 3 hours.

18. POWER LABORATORY. 3 hours, autumn quarter.

The calibration and use of instruments used in power plant testing, power plant operation, indicator practice. Labs., 3, 3 hours; lab. fee, \$3.50; lab. dep., \$2.00.

19. POWER LABORATORY. 2 hours, winter quarter.

A continuation of Course 18. The testing of engines, boilers, and auxiliaries, valve setting, etc. Labs., 2, 3 hours; lab. fee, \$3.50; lab. dep., \$2.00.

20. POWER LABORATORY. 2 hours, spring quarter.

A continuation of Course 19. Advanced work in testing. Labs., 2, 3 hours; lab. fee, \$3.50; lab. dep., \$2.00.

21. GAS, POWER LABORATORY. 2 hours, winter quarter.

Study and testing of gas and oil engines, gas producers, etc. Labs., 2, 3 hours; lab. fee, \$3.50; lab. dep., \$2.00.

22. PRINCIPLES OF MANAGEMENT. 3 hours, winter quarter.

Principles underlying factory operation. Practical training in organization and management of a machine shop manufacturing a line of standardized products by modern production methods. Lects., 3.

23. HEATING AND VENTILATING. 5 hours, spring quarter.

A study of the principles of heating and ventilation, the construction and operation of heating apparatus, hot water, exhaust, vacuum and fan systems, including the design of a complete system of heating and ventilation for some approved building plan. Lects., 4; lab., 1, 3 hours.

For description of courses given in College of Liberal Arts, see the courses listed in College of Liberal Arts catalogue.

MANUAL AND INDUSTRIAL ARTS**1. MODELING.** 3 hours, autumn quarter.

Modeling in clay, wax and plaster, natural and conventional forms; casting. Labs., 3, 3 hours; lab. fee, \$3.50.

2. ELEMENTARY CONSTRUCTION. 3 hours, spring quarter.

Manual training for the elementary school; practice in exercises used, tool processes, courses of study, equipment, etc. Labs., 3, 3 hours; lab. fee, \$5.00.

3. BENCH WORK AND TURNING. 3 hours, winter quarter.

Bench work in wood, principles of joinery, wood turning, use and care of hand tools. Labs., 3, 3 hours; lab. fee, \$5.00.

4. CABINET CONSTRUCTION. 3 hours, spring quarter.

Elementary cabinet construction, mill work. Labs., 3, 3 hours; lab. fee, \$5.00.

5. ADVANCED CABINET CONSTRUCTION. 3 hours, autumn quarter.

Furniture design, the layout and construction of high grade cabinet work of good design. (Materials supplied by students.)

6. CARPENTRY. 3 hours.

Proper methods of using tools, their care and maintenance. Methods of laying out, framing, construction, reading of blueprints. Labs., 3, 3 hours; lab. fee, \$5.00.

7. FORGE PRACTICE. 3 hours, autumn quarter.

Bending, drawing out, upsetting, forming and shaping, welding, brazing, tempering, case hardening, and tool making. Special emphasis given to agricultural forging. Labs., 3, 3 hours; lab. fee, \$5.00.

8. PATTERN MAKING AND FOUNDRY PRACTICE. 3 hours, winter quarter.

Elementary pattern construction, moulding, core making, cupola practice. Labs., 3, 3 hours; lab. fee, \$5.00.

9. MACHINE SHOP PRACTICE. 3 hours, spring quarter.

Bench work in metals, machine tool operation. Labs., 3, 3 hours; lab. fee, \$5.00.

10. AUTOMOBILE OPERATION AND REPAIR. 3 hours, autumn quarter.

Study of mechanical principles underlying automobile operation, common troubles, repairs. Labs., 3, 3 hours; lab. fee, \$5.00.

11. ELECTRIC WIRING. 3 hours, winter quarter.

Elementary circuits, exercise in bell wiring, and lighting installations. Labs., 2, 3 hours; lab. fee, \$3.50.

12. PIPE FITTING. 2 hours, spring quarter.

Study of piping, exercises in installing pipe lines for water, steam or gas. Labs., 2, 3 hours; lab. fee, \$3.50.

13b-c. PRINTING. 3 hours, winter and spring quarters.

Practice in the various operations carried on in a job printing office, for those who wish to operate a school press and teach printing in the high school. Labs., 3, 3 hours; lab. fee, \$3.50.

20a-b-c. FREEHAND DRAWING. 4 hours, autumn, winter and spring quarters.

Pencil, pen, charcoal, and brush, outline, light, shadows, shade and reflections, drawing from still life, cast, and the model.

21a. MECHANICAL DRAWING. 3 hours, winter quarter.

Elements of drafting, use of instruments, projections, conventions, lettering. Lects., 2; labs., 2, 3 hours.

21b. MECHANICAL DRAWING. 3 hours, spring quarter.

Machine drawing, detail and assembly drawing, tracing and blue-printing. Lects., 2; labs., 2, 3 hours.

21c. ADVANCED MECHANICAL DRAWING. 3 hours.

Continuation of 21b. Labs., 3, 3 hours.

22. ARCHITECTURAL DRAWING. 5 hours, autumn quarter.

Architectural construction, architectural details, plans and elevations, mechanical perspective. Lects., 2; labs., 3, 3 hours.

25a-b. ELEMENTS OF DESIGN. 2 hours, autumn and winter quarters.

Detailed study of the fundamental principles of design, balance, rhythm and harmony, in line, space, and color. Labs., 2, 3 hours.

26a-b. APPLIED DESIGN. 2 hours, spring and autumn quarters.

The application of the principles of design in the designing of artistic forms and the enrichment of the surface of the various objects of utility and beauty used in the home. Labs., 2, 3 hours.

27a-b. ADVANCED DESIGN. 2 or 3 hours, autumn and winter quarters.

Continuation of Courses 26a-b, but in more advanced projects. Labs., 2 or 3, 3 hours.

28a-b. COMMERCIAL ARTS. 3 hours, winter and spring quarters.

Application of drawing and painting to commercial work, poster designing, book and magazine illustration, etc. Labs., 2, 3 hours.

29. INTERIOR DECORATION. 5 hours, winter quarter.

Decoration of the home, space relations, color schemes, etc. Lects., 8; lab., 1, 2 hours.

35a-b-c. CRAFT WORK. 5 hours, throughout the year.

Bookbinding, leather tooling, wood carving, art metal, and jewelry are the subjects taken up, usually one subject per quarter. Lects., 2; labs., 3, 3 hours; lab. fee, \$5.00 to \$10.00, depending on the course.

40. **STRENGTH OF MATERIALS.** 3 hours, winter quarter.

Elementary course in strength of materials and materials of construction. Lects, 3.

41. **SHOP INSTALLATIONS.** 5 hours, winter quarter.

Detailed study of buildings and equipments required for manual training departments, layouts of machines, methods of erecting, designing of belt drives, shafting, hangers, etc. Lects., 5.

The description of the following courses will be found included in the list of courses given in the College of Education, where the curriculum for manual and industrial arts will also be found.

Psychology, Advanced Psychology, School Management, Principles of Education, History of Education, Organization and Administration of Vocational Education, Teaching of Vocational Education, Curriculum Building, Teaching Special Subjects, Tests and Measurements, Vocational Guidance.

The description of the courses in English, Mathematics, Science, Language, etc., will be found in the list of courses of the College of Liberal Arts.

THE COLLEGE OF PHARMACY

The College of Pharmacy, which was organized about thirty years ago with but three or four students, has met with great success. The graduates from the regular degree courses of this department now total in the neighborhood of 1,300, besides a large number of other students who have taken special work. These students are to be found in practically every city and town throughout the central and middle western states. The object of the school is to meet the demand for men and women thoroughly grounded in the scientific knowledge of pharmacy, and at the same time adequately trained in laboratory practice, who can enter stores, wholesale houses, chemical and pharmaceutical laboratories, equipped from the beginning to do the work before them. That the school meets this need is evidenced by the encouragement and support which it has received since its doors were opened.

PRACTICE OF PHARMACY

The elevation of legal standards for the licensing of pharmacists within recent years has raised the pharmaceutical profession to a plane superior, in many respects, to that which it formerly occupied. The reputable pharmacist ranks next to the physician in a community both in service and in responsibility. This increased educational requirement tends to raise the morals of the drug business, to remove from it the taint of mere commercialism, and to place it on a professional basis. The character of the work, the movement to shorten the hours of work in drug stores, and the comparative certainty of the business make it an attractive occupation.

PREPARATION

Thorough preparation has become not only desirable, but necessary. The serious responsibilities of the druggist and the constantly advancing legal requirements in nearly all states have made this true. Experience in a store, though having advantages of studying certain commercial and practical phases of the business, does not give one the accurate scientific knowledge and the professional breadth of the true pharmacist, qualities so essential to anything beyond mere material success. Moreover, the extensive manufacturing of proprietary drugs by individual druggists, the more careful diagnosis of pathological conditions by physicians, making it necessary for them to call to their aid the trained bacteriologist and chemist, together with many other circumstances, are constantly widening the field and discovering new opportunities for the educated pharmacist. Nothing short of careful technical training in a good school of pharmacy will any longer suffice to meet these requirements.

AMERICAN CONFERENCE OF PHARMACEUTICAL FACULTIES

Highland Park College of Pharmacy holds membership in the American Conference of Pharmaceutical Faculties, an organization composed of about forty-eight colleges of pharmacy. It was organized

expressly for the purpose of raising the standards of pharmaceutical education and of pharmacy schools. That it has been successful is evidenced by the fact that a number of states now have prerequisite laws recognizing its standards. Schools that are members of the Conference are required to maintain certain minimum requirements for entrance and graduation.

EXPERIENCE UNNECESSARY

While it is by no means necessary that the prospective pharmacy student have drug store experience before entering upon his course, it is advisable that he obtain, if convenient, at least a year and a half or two years of experience. By so doing he will be able to take the examination at once after the college course is completed. According to the new Iowa pharmacy law, at least two years of experience are required in addition to the college course. Three months of this experience can be obtained during the vacation between the Junior and Senior years.

In some states two years in college are counted as two years of experience; but in others only actual time spent in college is counted.

LABORATORIES AND EQUIPMENT

The College of Pharmacy is in Science Hall, a brick structure five stories high, covering a ground space of 98x102 feet, and furnished with steam heat, water, gas and electricity. The pharmacy laboratories occupy the upper floor, thus having excellent ventilation and overhead lighting. They are spacious and well arranged, and are equipped each for its particular kind of work.

During the past year the management of the University has gone to a great deal of expense in constructing and equipping new chemical laboratories on the fourth floor of Science Hall, in close proximity to the College of Pharmacy. These laboratories consist of a general laboratory for inorganic and qualitative work, a laboratory for volumetric analysis, and a laboratory for organic chemistry.

ADVANTAGES

Among the advantages of the College of Pharmacy are its location in the capital city and its close association with the other departments that go to make up the University. Though occupying quarters of its own, especially designed for its use, it is an integral part of the institution. The student of pharmacy is thrown constantly with others in the Departments of Engineering, Arts and Sciences, Teaching, Music, etc., and may without extra charge pursue studies in many of these courses. In Des Moines, too, the pharmacy student has the advantage of contact with wholesale and retail drug manufacturing establishments, and other industries and institutions. He has the opportunity also of coming into close touch with the State Board examinations, four of which are held at the State House in the City of Des Moines. Those desiring city experience are afforded ample opportunity in the large number of prescription drug stores in this city. Many students are able to pay a portion of their expenses while attending college.

ADMISSION REQUIREMENTS

The candidate shall have attained the age of seventeen years, except when a graduate of an accredited high school or an institution of equal standing, in which case there is no age limitation.

Evidence of the satisfactory completion of education beyond the eighth grade equivalent to high school graduation with 15 units credit is required for unconditional admission.

Students may be admitted conditionally on 14 units, provided the other unit is made up before they enter the work of the second year.

Those who cannot present the required certificate of high school credits may be admitted by passing examinations in enough approved entrance subjects to total at least 14 units.

Students presenting credits from other accredited schools of pharmacy having the same entrance requirements are admitted to advanced standing. This standing, however, is conditioned upon the student's demonstrating his proficiency by work in the institution.

Men and women are admitted on equal terms. The practice of pharmacy offers excellent advantages to women, much of the work being of a character for which they are naturally well fitted. There are always women enrolled in the department, and a number of those who have graduated are now successfully practicing pharmacists.

SPECIAL STUDENTS

Those who have not had the necessary high school education may be permitted to enter for special work, provided they are of mature age and have had sufficient drug store experience. They will be permitted to elect such studies as they may desire, but they will not be candidates for degrees.

THOSE LACKING PREPARATION

Those deficient in preparation will find an opportunity to make up all required subjects in the preparatory school of the University, known as the University Institute. This will be of particular advantage to those young people who may be lacking a few credits of completing a high school course.

TIMES OF ENTRANCE

The College of Pharmacy offers two opportunities each year for entrance:

At the opening of the first quarter in the latter part of September.

At the opening of the second quarter immediately after the Christmas holidays. (See University Calendar.)

The great body of regular students enter at the beginning of the first quarter of the year, and it is desirable that all who can do so should enter at that time.

THE IOWA PHARMACY LAW

The present pharmacy law of Iowa requires that a candidate for registration must have at least two years' drug store experience and must also have completed two years of work in a recognized college of pharmacy of such standing as is required by the American Conference of Pharmaceutical Faculties. The candidate is required to be twenty-one years of age for full registration. Those who have not attained this age may take the examination and register as assistants. Assistants' certificates will be exchanged for full registration without further examination when the person has attained the age of twenty-one years. An additional year of college work beyond the required two years counts the same as a year of practical experience.

POSITIONS

The College of Pharmacy cannot supply the demand for its graduates. Practically every student of this department is located in a position before he has completed his course. The opportunities for

obtaining positions in pharmaceutical lines have never been greater or more certain than at the present time. We make every possible effort to assist our students in obtaining good positions.

COURSES OF STUDY: REQUIREMENTS FOR GRADUATION

The College of Pharmacy offers three courses of study, as follows: The regular two-year course, covering a period of thirty-six weeks in each year, or a total of seventy-two weeks, and leading to the degree of Graduate in Pharmacy (Ph.G.); a three-year course of thirty-six weeks each, leading to the degree of Pharmaceutical Chemist (Ph.C.); and a four-year course, leading to the degree of Bachelor of Science in Pharmacy (B. S. in Pharm.).

The two-year course meets the requirements of the Iowa law, and gives an excellent foundation in prescription work and for those desiring to conduct drug stores.

The three-year course consists very largely of advanced work in analytical chemistry during the third year, many of the subjects being elective. It is a continuation of the Ph.G. course.

The four-year course is also a continuation of the Ph.G. course, the other two years being devoted largely to work in the Liberal Arts College. Credits for liberal arts work from other colleges may apply on this course.

GRADUATE IN PHARMACY COURSE

FIRST YEAR

AUTUMN QUARTER

| | Clock Hours per Wk. | Clock Hours per Qr. | Credit Hours per Qr. |
|---|---------------------------|---------------------------|----------------------------|
| Chemistry 101a. Inorganic Lecture | 3 | 36 | 3 |
| Chemistry 102a. Inorganic Laboratory..... | 6 | 72 | 2 |
| Botany | 5 | 60 | 5 |
| Microscopy | 5 | 60 | 2½ |
| Pharmacy I..... | 5 | 60 | 5 |
| Pharmacy Laboratory | 6 | 72 | 2 |
| | | <hr/> 360 | <hr/> 19½ |

WINTER QUARTER

| | | | |
|--|---|-----------|----------|
| Chemistry 101b. Inorganic Lecture | 3 | 36 | 3 |
| Chemistry 102b. Inorganic Laboratory | 6 | 72 | 2 |
| Physiology | 6 | 72 | 4 |
| Pharmacy Problems..... | 3 | 36 | 3 |
| Pharmacy Laboratory Quiz..... | 2 | 24 | 2 |
| Pharmacy Laboratory | 6 | 72 | 2 |
| | | <hr/> 312 | <hr/> 16 |

SPRING QUARTER

| | | | |
|---|---|-----------|----------|
| Chemistry 101c. Inorganic Lecture | 3 | 36 | 3 |
| Chemistry 102c. Qualitative Chem. Lab. | 6 | 72 | 2 |
| Chemistry 103. Qualitative Quiz..... | 2 | 24 | 2 |
| Materia Medica I..... | 5 | 60 | 5 |
| National Formulary | 2 | 24 | 2 |
| Pharmacy Laboratory | 6 | 72 | 2 |
| | | <hr/> 288 | <hr/> 16 |

SECOND YEAR

AUTUMN QUARTER

| | Clock Hours per Wk. | Clock Hours per Qr. | Credit Hours per Qr. |
|---|---------------------------|---------------------------|----------------------------|
| Organic Chemistry. 111a Lecture..... | 5 | 60 | 5 |
| Organic Chemistry. 112a Laboratory..... | 6 | 72 | 2 |
| Materia Medica II..... | 5 | 60 | 5 |
| Pharmacy II..... | 5 | 60 | 5 |
| Pharmacy Laboratory Synthetics..... | 6 | 72 | 2 |
| | | <hr/> 320 | <hr/> 19 |

WINTER QUARTER

| | | | |
|---|---|-----------|----------|
| Chem. 7. Quantitative Analysis Lecture..... | 2 | 24 | 2 |
| Chem. 8. Quantitative Laboratory..... | 6 | 72 | 2 |
| Organic Chemistry 111b..... | 3 | 36 | 3 |
| Organic Laboratory 112b..... | 3 | 36 | 1 |
| U. S. P. Lecture..... | 5 | 60 | 5 |
| Prescription Laboratory Quiz | 2 | 24 | 2 |
| Prescription Laboratory | 6 | 72 | 2 |
| | | <hr/> 324 | <hr/> 17 |

SPRING QUARTER

| | | | |
|--|---|-----------|----------|
| Chem. 10 ^s . Drug Assay Lecture..... | 1 | 12 | 1 |
| Chem. 10 ^s . Drug Assay Laboratory..... | 9 | 108 | 3 |
| Histology Laboratory | 9 | 108 | 3 |
| Pharmaceutical Jurisprudence | 1 | 12 | 1 |
| Commercial Pharmacy | 1 | 12 | 1 |
| Pharmaceutical Ethics | 1 | 12 | 1 |
| Bacteriology | 6 | 72 | 2 |
| Bacteriology Lecture | 2 | 24 | 2 |
| Toxicology | 2 | 24 | 2 |
| Prescription Laboratory | 6 | 72 | 2 |
| | | <hr/> 456 | <hr/> 18 |

PHARMACEUTICAL CHEMIST COURSE

THIRD YEAR

AUTUMN QUARTER

| | Clock Hours per Wk. | Clock Hours per Qr. | Credit Hours per Qr. |
|--|---------------------------|---------------------------|----------------------------|
| Chem. 3. Advanced Inorganic Lecture | 2 | 24 | 2 |
| Chem. 4. Advanced Qualitative Laboratory | 6 | 72 | 2 |
| Chem. 5. Quantitative Gravimetric Lect.... | 1 | 12 | 1 |
| Chem. 6. Quantitative Gravimetric Lab.... | 9 | 108 | 3 |
| Materia Medica Synthetic Lectures..... | 5 | 60 | 5 |
| Bacteriology. Advanced Laboratory | 6 | 72 | 2 |
| | | <hr/> 348 | <hr/> 15 |

WINTER QUARTER

| | | | |
|--|---|-----------|----------|
| Chemistry 17a. Biochemistry Lectures | 3 | 36 | 3 |
| Biochemistry Laboratory..... | 6 | 72 | 2 |
| Chemistry 10 ¹ . Food Analysis Lecture..... | 1 | 12 | --- |
| Food Analysis Lab. | 9 | 108 | 4 |
| Toxicology. Experimental Lectures..... | 1 | 12 | 1 |
| Toxicology. Experimental Laboratory | 6 | 72 | 2 |
| Pharmaceutical Research | 6 | 72 | 3 |
| | | <hr/> 384 | <hr/> 15 |

SPRING QUARTER

| | | | |
|--|-----|-----------|----------|
| Chem. 17b. Biochemistry Lectures | 3 | 36 | 3 |
| Biochemistry Laboratory | 6 | 72 | 2 |
| Chem. 10 ² . Biochemical Analysis Lecture.. | 1 | 12 | 1 |
| Biochemical Analysis Lab..... | 9 | 108 | 3 |
| Organic Chemistry. Advanced Laboratory.. | 9 | 108 | 3 |
| Electives | --- | 60 | 5 |
| | | <hr/> 396 | <hr/> 17 |

BACHELOR OF SCIENCE IN PHARMACY

This degree requires two years (96 term hours), in addition to the Ph.G. course, according to the following schedule:

| | Hours |
|--|---------|
| English | 15 |
| *Foreign Languages | 9 to 15 |
| Mathematics or Physics | 15 |
| Advanced Chemistry and Pharmacy..... | 27 |
| History | 9 |
| Physical Education | 6 |
| Electives in subjects other than Mathematics, Science, and Pharmacy | 9 to 15 |

EXPENSES

The tuition in this College is \$50.00 per quarter. There are also the following special fees:

| | |
|--|---------|
| Matriculation fee (first quarter only)..... | \$ 5.00 |
| Laboratory fee (for each laboratory course)..... | 3.50 |
| Laboratory deposit (to cover breakage)..... | 3.50 |
| Graduation fee | 10.00 |

*Presupposing two years in high school. If all the foreign language is taken in college, two years' work meets the requirement.

THE SCHOOL OF FINE ARTS

FACULTY

JOHN W. MILLION, A. M., LL. D.
President

LORAN D. OSBORN, Ph. D.
Chancellor

RAYMOND NORMAN CARR, A. B.
Dean of the School of Fine Arts
Professor of Voice and Public School Music
Director of the Choral Union
3119 Oxford Avenue

A. B., Shurtliff; graduate, Northwestern University School of Music; graduate student, University of Chicago; Special training; Des Moines University, '21

EDITH M. USRY, A. B., Mus. B., A. A. G. O.
Professor of Pianoforte, Organ, Theory, and History of Music
744 Eighteenth Street
A. B., Mus. B., Oberlin; Special training; Des Moines College, '12

WALTER L. ROOSA, A. B.
Professor of Violin
Director of the University Orchestra
3804 Fifth Street
A. B., Syracuse; Special training; Des Moines University, '22

SUSAN B. EDDY
Instructor in Voice
Victoria Hotel
Special training; Des Moines College, '18

ALMA L. GARBER, Mus. B.
Instructor in Pianoforte
1815 Ninth Street
Mus. B., Des Moines; Des Moines College, '17

HELEN L. WARREN, A. B.
Instructor in Voice
1624 Oakland Avenue
A. B., Grinnell; Special training; Des Moines University, '22

WILLARD A. MOORE
Instructor in Flute
1528 Carpenter Avenue
Des Moines University, '22

ROBERT G. WILLAMAN
Instructor in Clarinet
1246 Fourth Street
Des Moines University, '22

GAIUS E. WRIGHT
Director of the University Band
3218 Fifth Street

E. GRACE HULSE
Assistant in Pianoforte
Eleanor Childs Hall
Des Moines University, '22

EMILY R. TALBOTT
Instructor in Drawing and Painting
3200 Cornell Avenue

Washington University; St. Louis School of Fine Arts; Chicago Art Institute; Des Moines College, '09-'18, '20

LAURA M. WILLIAMSON, A. B.
Instructor in Dramatic Art
1028 Seventh Street

A. B., Iowa; School of Oratory, Northwestern University; American Academy of Art; Des Moines University, '21

GENERAL STATEMENT

The School of Fine Arts is one of the constituent divisions of the University. It is under the direction of a Dean of its own, supported by a capable and thoroughly trained faculty. There are three main departments in the school,—the Conservatory of Music, the Department of Drawing and Painting, and the Department of Dramatic Art.

The School of Fine Arts occupies the entire first floor of Science Hall. The Department of Drawing and Painting is on the fifth floor of the Administration Building. The school occupies about twenty rooms, including offices, studios, recitation rooms, and practice rooms. Recently there have been installed a new Steinway Parlor Grand piano for the Dean's studio; an Estey electric two-manual and pedal practice organ, five new Schiller Conservatory Special practice pianos, equipped with Wessel, Nickel and Gross action; and a Columbia School Model Grafonola. The equipment of the Conservatory also includes two Weber Concert Grand pianos, and a library of books on music and phonograph records. The University Chapel serves admirably as a recital hall and also as an auditorium for operatic, dramatic, and other performances.

Des Moines University and the City of Des Moines afford opportunity to hear the world's best on the concert and dramatic stage, including such world-renowned artists as Galli-Curci, John McCormack, Schumann-Heink, Clarence Whitehill, Frieda Hempel, the Devereux Players, Madame Borgny-Hammer, the Flonzaley Quartet, Robert Mantell, and others.

THE CONSERVATORY OF MUSIC

The aim of the Conservatory of Music is to produce musicians of culture and capability. The connection of the Conservatory with the University affords unusual intellectual, religious, and social opportunities.

The Conservatory is located in Science Hall, on the campus, far enough away from the heart of the city to avoid its distractions, yet within easy reach of its advantages. Here are the professors' studios, the class rooms, and the practice rooms. The methods which prevail are those of the best European and American Conservatories.

Students wishing to take the course leading to the degree of Bachelor of Music, or Bachelor of Arts with music as the major subject, must present for admission 15 units of high school work or the equivalent, and must satisfy the Dean of the School of Fine Arts that they have sufficient capacity for music to warrant majoring in this subject. Credit given is based on proficiency attained, as well as on laboratory hours

of practice. The specific requirements for graduation are given in the schedules of the several courses in the following pages.

Students in the University Colleges may elect courses in the Conservatory of Music totalling not to exceed 45 hours. Fifteen hours of this amount may be earned in Practical Music (Voice, Pianoforte, Violin, Pipe Organ, or the instruments of the Symphony Orchestra), provided the work done is voted by the Conservatory and College faculties to be equivalent to other work of college grade.

Persons not regularly classed in the University may enroll at any time during the college year for private lessons. Such persons are not required to present any specific number of entrance credits.

REQUIREMENTS FOR GRADUATION

MANIFEST OF COURSES LEADING TO BACHELOR OF MUSIC DEGREE MAJOR IN VOICE

| FRESHMAN | SOPHOMORE | JUNIOR | SENIOR |
|------------------------------|-------------------|-------------------|-------------------|
| Voice 6 | Voice 6 | Voice 9 | Voice .....15 |
| Piano 9 | Piano 9 | Piano 6 | Piano 6 |
| Harmony 9 | Har. Anal..... 9 | Counterpt. 9 | Electives .....24 |
| Ear Tr. & St. Sing..... 6 | Hist. of Mus... 6 | Electives .....21 | — |
| Liberal Arts...15 | Liberal Arts...15 | — | 45 |
| Phys. Edcn.... 3 | Phys. Edcn.... 3 | 45 | — |
| — | — | — | — |
| 48 | 48 | — | — |

MAJOR IN PIANOFORTE

| | | | |
|------------------------------|-------------------|-------------------|------------------|
| Piano .....15 | Piano .....15 | Piano .....15 | Piano .....15 |
| Harmony 9 | Har. Anal..... 9 | Counterpt. 9 | Elective .....30 |
| Ear Tr. & St. Sing..... 6 | Hist. of Mus... 6 | Elective .....21 | (Lib. Arts 5) |
| Liberal Arts...15 | Liberal Arts...15 | (Lib. Arts 5) | — |
| Phys. Edcn.... 3 | Phys. Edcn.... 3 | — | 45 |
| — | — | 45 | — |
| 48 | 48 | — | — |

MAJOR IN VIOLIN

| | | | |
|------------------------------|-------------------|-------------------|-------------------|
| Violin .....15 | Violin .....15 | Violin .....15 | Violin .....15 |
| Piano 6 | Piano 6 | Piano 6 | Piano 6 |
| Harmony 9 | Har. Anal..... 9 | Counterpt. 9 | Electives .....24 |
| Ear Tr. & St. Sing..... 6 | Hist. of Mus... 6 | Orchestra 5 | — |
| Liberal Arts...15 | Liberal Arts...15 | Electives .....10 | 45 |
| Phys. Edcn.... 3 | Phys. Edcn. .. 3 | — | — |
| — | — | 45 | — |
| 48 | 48 | — | — |

MAJOR IN PIPE ORGAN

| FRESHMAN | SOPHOMORE | JUNIOR | SENIOR |
|-------------------------------|-------------------|-------------------|------------------|
| Piano .....15 | Piano .....15 | Piano .....15 | Piano .....15 |
| Harmony 9 | Har. Anal..... 9 | Counterpt. 9 | Canon, Fugue 9 |
| Ear Tr. & St. Sing..... 6 | Hist. of Mus... 6 | Instrumentn... 6 | Instrumentn... 6 |
| Organ or Lib. Arts .....15 | Organ .....15 | Organ .....15 | Organ .....15 |
| Phys. Edcn.... 3 | Phys. Edcn.... 3 | — | — |
| — | — | 45 | 45 |
| 48 | 48 | — | — |

Note—Students in the first three courses above must present creditably a full evening's memorized program during their Senior year.

FOUR-YEAR COURSE IN PUBLIC SCHOOL MUSIC

(As Recommended by the Music Supervisors' National Conference.)

| FRESHMAN YEAR | | SOPHOMORE YEAR | |
|---------------------------------|----|------------------------------------|----|
| English | 9 | English | 1 |
| Psychology | 5 | Sociology and Political Science.. | 5 |
| Harmony | 9 | Principles of Education..... | 5 |
| Ear Training and Sight Singing | 6 | Harmony | 9 |
| Piano and Voice..... | 13 | History of Music..... | 6 |
| Physics of Music..... | 3 | Music Methods | 6 |
| Physical Education | 3 | Music Form | 2 |
| | — | Piano, Voice or Elect. (L. A.).... | 11 |
| | 48 | Physical Education | 3 |
| | | | 48 |
| JUNIOR YEAR | | SENIOR YEAR | |
| Orchestra Methods, Conducting.. | 3 | Voice, Piano or Violin..... | 15 |
| School Administration | 5 | Instrumentation | 6 |
| Counterpoint | 6 | History of Education | 3 |
| Voice, Piano or Violin..... | 16 | Music Appreciation Methods..... | 2 |
| Electives (Liberal Arts)..... | 15 | Electives (Liberal Arts)..... | 19 |
| | — | | — |
| | 45 | | 45 |

Three hours of chorus or orchestra, representing a minimum of six terms of work, must be included in the above course.

All practical studies are rated on the basis of three hours' practice for one hour's credit, except organ, which is rated on the basis of two hours' practice for one hour's credit.

Not more than 15 hours in practical subjects are accepted toward the A. B. degree, and not more than 30 hours in Theory and Harmony.

For two-year normal course in music see under College of Education, page 68.

DESCRIPTION OF COURSES

VOICE

One to five hours, by arrangement, throughout the year.

First Year. The principles of tone production. Breath control. Exercises to develop, beautify and strengthen the singing tones. Elementary diction. Singing of songs.

Second Year. Additional work in exercises and diction. Simple songs and arias from operas and oratorios. Singing before an audience.

Third Year. Exercises for more highly developed technique. Advanced work in diction. Singing the more difficult songs by the great masters. Creditable rendition of the more difficult songs from operas and oratorios. Public recital from memory.

Fourth Year. Extension of repertoire of songs from representative folk songs, ballads, art songs, opera and oratorio from the classic and modern composers. Teaching pieces. Interpretation. Ensemble. Public recitals.

PIANOFORTE

One to five hours, by arrangement, throughout the year.

The course of study includes technical exercises which are intended to give control of the fingers, hands and arms; etudes which are in-

tended to develop not only greater executive powers, but also an intellectual grasp of the higher forms of musical expression; compositions by the best of writers for aesthetic development. The details of the course are adapted to the individual needs of each student, the purpose being to develop a musicianly and masterful style of playing.

VIOLIN

One to five hours, by arrangement, throughout the year.

Complete preparatory, general and professional course. Review and application of ear training and sight singing to instrumental instruction. Principles of tone production, bowing exercises adapted to individual problems of hand and arm. Formative exercises for the left hand. Progressive treatment of technical and interpretative problems, with constant attention to development of efficient habits of study, adequate and well rounded technical equipment, and genuine artistic insight. With students preparing for professional careers special attention is given to the early acquisition of solo and ensemble repertoire.

PIPE ORGAN

Two to five hours, by arrangement, throughout the year.

Prerequisite, moderate pianoforte technique and ability to read at sight.

Organ keyboard and pedal technique are acquired simultaneously with facility in registration. All students are advised to study instrumentation in conjunction with pipe organ on account of the increasing number of orchestral organs which are being installed in theaters, as well as churches.

INSTRUMENTS OF THE ORCHESTRA

One to four hours, by arrangement, throughout the year.

The instruments of the Symphony Orchestra are taught by eminent specialists in the respective instruments. Attention is given primarily to tone, technic, and the mastery of the instrument in solo and ensemble playing.

THEORY AND HARMONY

THEORY 1. 3 hours, throughout the year.

Harmony. Musical notation, keys, scales, signatures, intervals, the triad, simple part writing from given basses and sopranos. Chords of the seventh. Simple modulation. Harmonizing chorals, melodies and figured basses.

Practical application of this work in exercises played at the piano. Harmonizing melodies which modulate. Advanced study of secondary sevenths. Exercises in modulation at the piano. The text-book is "Lessons in Harmony," by Heacox and Lehmann.

THEORY 2. 3 hours, autumn and winter quarters.

Harmony. Chromatically altered chords, enharmonic changes, modulation by these means. The progressions involved are played at the piano. Suspensions, retardations, appoggiaturas, anticipations, passing tones, embellishments, pedal points, melodic figuration and accompaniment. The text-book is "Lessons in Harmony," by Heacox and Lehmann. Prerequisite, Theory 1.

THEORY 3. 3 hours, spring quarter.

Harmonic Analysis. Analysis of the works of the masters. The text-book is "Harmonic Analysis," by Cutter. Review of harmony at the piano, all exercises being played, including difficult sight playing tests. The text-book is "Keyboard Training in Harmony," by Heacox. Prerequisites, Theory 1 and 2.

THEORY 4. 3 hours, autumn and winter quarters.

Simple Counterpoint. Counterpoint in two, three and four parts in the five species. Study of the motet and writing in this form. The text-book is "Simple Counterpoint," by Lehmann. Prerequisites, Theory 1 and 2.

THEORY 5. 3 hours, spring quarter.

Musical Form. Study of the development of forms with analysis of classic and modern types. The text-book is "Musical Form," by Busser-Cornell, supplemented by a wide range of compositions. Prerequisites, Theory 1, 2 and 3.

THEORY 6. 3 hours, autumn quarter.

Double Counterpoint. Double, triple and quadruple counterpoint. Analysis of Bach's "Inventions." Counterpoint in five to eight real parts.

THEORY 7. 3 hours, winter quarter.

Canon. Strict canon in two, three and four parts. Two-voiced fugue. Prerequisites, Theory 1, 2, 4 and 6.

THEORY 8. 3 hours, spring quarter.

Fugue in three and four voices. Comparison of the school fugue with important fugues by the masters. Prerequisites, Theory 1, 2, 4, 6 and 7.

THEORY 9. 2 hours, throughout the year.

Instrumentation. Reading at the piano of classic and modern string quartet and orchestral scores. Arranging compositions for string orchestra. The text-book is "The Technique of the Modern Orchestra," by Widor. Prerequisites, Theory 1, 2 and 3.

THEORY 10. 2 hours, throughout the year.

Ear Training and Sight Singing. Taken simultaneously with Harmony 1. Major and minor scales, writing melodies from dictation, studies in rhythm, chords, chord progression and modulation. Short themes from the works of the masters, short two-part phrases in canon form, the subject and answer of simple fugues. Especial emphasis is laid on sight singing. The text-books are "Ear Training," by Heacox, and "Melodia," by Cole-Lewis.

HISTORY AND APPRECIATION OF MUSIC

The course covers the history from the earliest times to the present. Historical development, appreciation and criticism are taught. Instruction is by lectures and assigned reading. Throughout the year, 2 hours.

PUBLIC SCHOOL MUSIC

1. PRIMARY SUPERVISION. 2 hours, autumn quarter.

Detailed and practical study of the problems incident to the teaching of music and supervising of the teaching of music in the first four grades; song presentation; tonal and rhythmic sense; child voice; monotonous; song material; requirements and attainments of each grade.

2. INTERMEDIATE AND GRAMMAR GRADE SUPERVISION. 2 hours, winter quarter.

Study of the problems of the fifth, sixth, seventh and eighth grades, including sight singing; rhythm; notation; tonal and metric dictation; scale construction; the changing voice; voice testing; the alto-tenor; part singing; courses and materials; requirements and attainments of each grade.

3. HIGH SCHOOL MUSIC. 2 hours, spring quarter.

The organization and training of choruses and glee clubs; testing voices; the alto-tenor; materials and repertoire; use of the baton and

choral conducting; theory; appreciation; model course of study; credits for outside music study.

4. **SCHOOL ORCHESTRAS AND BANDS.** 1 hour, autumn, winter and spring quarters. 2 hours, summer quarter.

The organization and training of orchestras and bands in the intermediate and upper grades and high school; the tuning, care and function of each instrument; study and arranging of simple orchestral scores; the development of orchestral material; the modern class method of instrumental instruction; use of the baton and orchestral conducting; repertoire.

5. **MUSIC APPRECIATION.** 2 hours, winter and summer quarters.

A definite and systematic course to prepare supervisors and teachers in grade and high schools to teach pupils to listen intelligently to music; study of the various forms of vocal and instrumental music; the historical and national significance of representative types. Practical illustrative work through the use of the phonograph. Methods of presentation carefully and pedagogically developed from the primary grades through the high school.

6. **ELEMENTARY MUSIC.** 3 hours, winter quarter.

A beginner's course in the rudiments of music for teachers and others, presupposing no musical training or experience. Sight singing and elementary theory. Procedure for teaching music in the kindergarten and primary grades. Five hours weekly attendance required.

7. **INTERMEDIATE AND GRAMMAR GRADE MUSIC.** 3 hours, spring quarter.

An adaptation of Courses 1, 2 and 6 for students preparing to teach music in the grades or rural schools.

8. **NORMAL MUSIC COURSE.** 2 hours, summer quarter.

Rudiments of music; rural school music problems; song methods; materials. For students wishing to pass examination for teacher's certificate. Three hours weekly recitation required.

9. **SCHOOL MUSIC ADMINISTRATION.** 2 hours, summer quarter.

A course in the broader and more advanced problems of School Music; the choosing and training of assistants and special teachers; the problem of the unsympathetic or unmusical grade teacher; the supervisor and his relationships with the various members of the teaching and administrative force; his attitude toward the various phases of community music, such as choirs, music clubs, municipal music, etc.; the music supervisor as an educator; and as a pioneer and leader in the making of a musical people.

CHORUS

- CHORUS.** 1 hour, throughout the year.

Open to all who can read vocal music fairly well, both students and townspeople. All members, whether registered for credit or not, must be punctual and regular in attendance and must appear in public with the organization when requested. Since the material is new each year, the course may be repeated. Three hours weekly attendance required. Credit given only toward Bachelor of Music degree and only after three terms or the equivalent have been taken without credit.

ORCHESTRA

- ORCHESTRA.** 1 hour, throughout the year.

Open to all students who can play an orchestral instrument fairly well. Affords opportunity for the study and performance of standard overtures, lighter symphonies, and other forms; concert, oratorio and opera work. Conditions and regulations same as for chorus. Credit

given only toward Bachelor of Music degree and only after three terms or the equivalent have been taken without credit.

TUITION

PRIVATE LESSONS FOR A TERM OF 12 WEEKS, 30 MINUTES EACH

VOICE

| | One lesson a week | Two lessons a week |
|---|----------------------|-----------------------|
| Dean Carr | \$36.00 | \$72.00 |
| Students majoring in Voice who show commendable ability and consistent advancement may receive a discount from the above prices of not less than twenty-five per cent, upon recommendation of the Dean. | | |
| Mrs. Eddy | \$24.00 | \$48.00 |
| Mrs. Warren | 15.00 | 30.00 |

PIANOFORTE

| | | |
|--|---------|---------|
| Professor Usry | \$24.00 | \$48.00 |
| Miss Garber | 12.00 | 24.00 |
| Miss Hulse | 9.00 | 18.00 |
| (Miss Hulse's pupils receive one hour class lesson weekly, without additional cost.) | | |

VIOLIN

| | | |
|--|---------|---------|
| Professor Roosa | \$24.00 | \$48.00 |
| Class lessons, 4 in a class, 1 hour, for children, 12.00 | | |

PIPE ORGAN

| | | |
|----------------------|---------|---------|
| Professor Usry | \$24.00 | \$48.00 |
|----------------------|---------|---------|

BAND INSTRUMENTS

| | | |
|------------------|---------|---------|
| Mr. Wright | \$18.00 | \$36.00 |
|------------------|---------|---------|

FLUTE

| | | |
|-----------------|---------|---------|
| Mr. Moore | \$18.00 | \$36.00 |
|-----------------|---------|---------|

CLARINET AND SAXOPHONE

| | | |
|--------------------|---------|---------|
| Mr. Willaman | \$18.00 | \$36.00 |
|--------------------|---------|---------|

THEORY AND HISTORY OF MUSIC

| | |
|---------------------------------|---------|
| Class lessons, per quarter..... | \$12.00 |
|---------------------------------|---------|

PRACTICE ROOM RENTAL

PIANO (VOICE, VIOLIN, ETC.)

| | |
|---------------------------------------|------|
| For each hour daily, per quarter..... | 3.00 |
|---------------------------------------|------|

ORGAN

| | |
|---------------------------------------|-------|
| For each hour daily, per quarter..... | 15.00 |
|---------------------------------------|-------|

THE DEPARTMENT OF DRAWING AND PAINTING

The Department of Drawing and Painting has three aims, resulting in three lines of work: (1) the training of artists, by means of academic art courses; (2) normal courses for public school teachers of art; and (3) courses intended primarily for students majoring in other departments of the University.

ACADEMIC ART COURSES

The work offered in these courses is similar to that of the leading schools of art, and includes the following:

1. **ELEMENTARY.** One to five hours, by arrangement.

From the beginning the student is taught to draw from objects. At first very simple forms are studied, then fragments of the human figure and models of natural forms.

2. **ANTIQUE.** One to five hours, by arrangement.

The drawing from casts of classical sculpture is taken up in the class. Accurate drawing and the cultivation of a correct taste in matters pertaining to Art are emphasized.

3. **STILL LIFE PAINTING.** One to five hours, by arrangement.

This is begun in connection with drawing. Students are taught to observe and reproduce simple masses of form and color. The student may work in oil or water colors.

4. **LIFE.** One to five hours, by arrangement.

Sketching classes from life are open to all students. Regular life work is introduced gradually as students become advanced enough to profit by such classes.

5. **THEORY OF PERSPECTIVE.** One to two hours.

Open to students in the first year of the course—winter quarter.

6. **THE HISTORY OF ART.** Two hours, throughout the year. Open to all students.

Composition will be studied throughout the course, first in connection with still-life work, and later in connection with the figure in life work.

Instruction is individual, and the student is promoted to higher classes as rapidly as his progress will permit.

No specified time can be given for the completion of this course, but it usually requires from one to two years of close study to reach the rank of life student.

A student will be given a formal certificate of attainment who has worked three full years and can execute a creditable drawing from the cast, still-life in any medium, sketches from life in black and white and color, compositions in charcoal and color, drawing and painting of head from life, each in charcoal and color, and who has done the required work in Perspective and History of Art.

DEPARTMENTAL COURSES

Intended primarily for students majoring in other departments of the University, but the work may be taken to advantage also by those whose chief interest is in art.

| Autumn. | | Winter. | | Spring. | |
|------------------|------|--------------------|------|-------------------|------|
| | Hrs. | | Hrs. | | Hrs. |
| History of Arch. | | History of Arch. | | History of Arch. | |
| (Ancient) | 2 | (Medieval)..... | 2 | (Modern) | 2 |
| Free Hand Draw. | | Free Hand Draw. | | Free Hand Draw. | |
| (Studio Prac.).. | 4 | (Studio Prac.).. | 4 | (Studio Prac.).. | 4 |
| Color and Design | 2½ | Draw. and Per..... | 2½ | Upper Gr. Draw. | 3 |
| | | Primary Draw..... | 2½ | Primary Draw..... | 2½ |

HISTORY OF ARCHITECTURE is offered primarily for students in the Architectural Engineering course, but may be taken with advantage by Home Economics and Liberal Arts students.

FREE HAND DRAWING is designed especially for students taking engineering courses, but is open to all students desiring studio practice in drawing.

DRAWING AND PERSPECTIVE is given especially for the first year Home Economics students, but is open to all students wishing definite instruction in the principles of drawing.

COLOR AND DESIGN is required of second year Home Economics students, but may be taken by all students who have had drawing.

UPPER GRADE DRAWING is given for those expecting to teach in public schools above the Third Grade.

PRIMARY DRAWING is designed especially for Primary teachers.

SUPERVISORS' NORMAL COURSE

This course is intended primarily for teachers of art in the public schools. It is accredited by the State Board of Educational Examiners, and graduates may receive a special Uniform County Drawing Certificate.

Graduation from a four-year approved high school is required for admission. Upon satisfactory completion of the course, the University grants the Normal Art Diploma.

FIRST YEAR

| Autumn Quarter. | | Winter Quarter | | Spring Quarter | |
|----------------------|----|------------------------|----|---------------------|----|
| Hist. of Archtr..... | 2 | Hist. of Sculpture.... | 2 | Hist. of Painting.. | 2 |
| Freehand Drawing.. | 6 | Drawing from Cast | 6 | Theory of Color | |
| Mech. Drawing | 2 | Working drawings.. | 2 | & Design | 2½ |
| English | 5 | English | 5 | Water Color | 2½ |
| | | | | Perspective | 2 |
| | | | | Pose Drawing | 1 |
| | | | | English or Mech. | |
| | | | | Drawing | 5 |
| | 15 | | 17 | | 15 |

SECOND YEAR

| | | | | | |
|------------------------|----|-----------------------|----|----------------------|----|
| Hist. of Painting..... | 1 | Technical work | 1 | Technical and rev. | |
| Technical work | | Drawing or Color.... | 5 | work | 6 |
| Draw. & Color..... | 3 | Meth., prac., teach., | | Outlines & course of | |
| Pose Drawing | 1 | and observation.... | 5 | study for grades.. | 3 |
| Applied design | 3 | Education | 5 | Methods | 1 |
| Methods | 2 | | | Social Science | 5 |
| Psychology | 5 | | | | |
| | 15 | | 16 | | 15 |

Students preferring the course leading to a Third-Grade State Certificate will take an additional 10 hours in Education and will elect 10 hours in the College of Liberal Arts, omitting other subjects to that extent.

TUITION PER QUARTER

| | |
|---|---------|
| Academic Courses: | |
| 5 days per week, 4 hours per day..... | \$30.00 |
| 3 days per week, 4 hours per day..... | 20.00 |
| 1 day per week, 4 hours per day..... | 10.00 |
| Normal Art Course..... | 40.00 |
| Saturday Normal Course..... | 10.00 |
| Supervisors Course | 40.00 |
| Private lessons: | |
| Two lessons per week, thirty minutes..... | \$36.00 |
| One lesson per week, thirty minutes..... | 18.00 |

Note—Students regularly registered in the University may take academic courses without extra tuition.

Rates for any special work may be had on application.

THE DEPARTMENT OF DRAMATIC ART

DESCRIPTION OF COURSES

1. **ELEMENTARY PUBLIC SPEAKING.** 1 hour, throughout the year.
A course covering the principles underlying effective speaking and teaching the correct use of these principles. It consists of theoretical study, practical exercises, and the preparation and delivery of short original speeches.
2. **ORAL INTERPRETATION OF LITERATURE.** 2 hours, throughout the year.
Appreciation and oral interpretation of masterpieces of English and American literature. An effort is made to quicken the student's sense of interpretation of thought and feeling and then heighten his ability to express it for others.
3. **DRAMATIC INTERPRETATION OF LITERATURE.** 2 hours, throughout the year.
This study is to familiarize the student with the essentials of stage work. It consists of stage business; make-up; analysis of plays. Open to students who have had Course 1; or the two may be taken simultaneously.
4. **PLAY PRODUCTION.** 3 hours, throughout the year.
A practical course in the production of plays. A play is given every two weeks under the direction of some member of the class. The student is given actual experience in the problems of dramatic direction, including scenery, lighting, costuming, make-up and interpretation. Study of the Little Theatre Movement and its ideals; dramatic composition. Prerequisites: Courses 1 and 3.
5. **STORY TELLING.** 2 hours, spring quarter.
A course especially prepared for those interested in primary teaching, library work and playground supervision. The place of the story in education, the kind of story to tell and how to tell it. Practice in telling various kinds of stories, and constructive criticism upon the results.
6. **PAGEANTRY.** 2 hours, summer quarter.
The technic of writing and presenting pageants; costuming; pantomime; etc.

TUITION

PRIVATE LESSONS, PER QUARTER

| | |
|---|---------|
| Two lessons per week, thirty minutes..... | \$36.00 |
| One lesson per week, thirty minutes..... | 18.00 |

CLASS LESSONS

Class lessons in the courses in Dramatic Art may be taken without extra charge by students regularly enrolled in the University.

THE UNIVERSITY INSTITUTE

FACULTY

JOHN W. MILLION, A. M., LL. D.

President

LORAN D. OSBORN, PH. D.

Chancellor

ZENAS C. THORNBURG, A. B., LL. D.

Director

1804 East Twelfth Street

S. E. GIBBS, B. E.

Superintendent of Industrial Department

3600 Fourth Street

JAMES F. PAGE, A. M., LL. B.

Instructor in History and Civics

605 Ovid Avenue

CHARLOTTE R. SMITH, A. B.

Instructor in English

Ewing Apartments

IDAMAY S. KACENA, A. B.

Instructor in Mathematics

1350 Hutton Avenue

JOHN W. MILLION, JR., A. B.

Instructor in Physics

3407 Fifth Street

ADRIAN LOGAN

Instructor in Automotive Electricity

3609 Fifth Street

HAROLD J. WHITE

Instructor in Tire Vulcanizing

2306 Fortieth Street

GEORGE D. TALLMAN

Instructor in Automobile Mechanics

2719 East Fourteenth Street

LOWELL R. BUTCHER

Instructor in Machine Shop

3805 Oxford Avenue

HARLAN C. HEINLEN

Assistant in Mathematics

3302 Sixth Avenue

GENERAL STATEMENT

The demand of various kinds of vocational and preparatory training is so great in a city like Des Moines, that the University is attempting to meet these needs through certain courses that are vocational college credit. The instructional staff and classes are separate from the colleges, both to guard college standards and also because much of the work is of an essentially different character and has a different purpose, that of specific training for a definite employment.

These academy courses are arranged primarily in the interests of young men and women who, for one reason or another, have failed to take their high school work. They find themselves with a desire to go to college and are not willing to return to high school for their preparatory course; or they find that they can better their condition and perform more useful service by taking a special course of vocational training. It is in the hope of aiding such young people as these that the Institute courses are maintained.

PREPARATORY DEPARTMENT

The preparatory Department of the Institute offers a fully organized secondary course, including subjects given in a standard public high school. These regular high school courses may be combined with the vocational and commercial courses of the Institute. Students who are deficient in high school work can choose such courses as will complete their preparation for college. The classes are not large and the recitation periods are longer than in the public high school; the pupil receives much individual attention; it is therefore possible for the mature student, at least, to advance as rapidly as his individual ability will permit.

The course of study covers from three to four years of thirty-six weeks each, divided into three quarters of twelve weeks, the reduction in time from the usual high school course being made possible by the longer class periods.

Students are limited to fifteen hours per week, and do intensive work so that a university quarter corresponds to a high school semester. Pupils making exceptionally high grades, and mature students twenty-one years of age or above, may carry a limited number of extra hours with the approval of the Director of the Institute. The course may be completed in less time by attendance during the summer quarter. Fifteen units will lead to Freshman standing in the University.

COURSES OF STUDY

In the following list of subjects those in italics are required; the electives may be selected from the others.

FIRST YEAR

English
Algebra
Latin
Home Economics
Drawing
Shop
Music
Bookkeeping

SECOND YEAR

English
Geometry
Civic Biology
Latin
Drawing
Shop
Music
Commercial Law
Mediaeval and Modern History

THIRD YEAR

English
 American History
 Solid Geometry
 Algebra
 Physics
 Spanish
 Shop
 Music
 Shorthand

FOURTH YEAR

English
 Social Problems
 Shop
 Shorthand
 Music
 Radio
 Salesmanship

INDUSTRIAL DEPARTMENT

The Industrial Department may well be called an opportunity school. Any young man of good moral character and with an eighth grade education, or its equivalent, may enter this Department. The courses offered are designed to train young men as skilled mechanics in the various branches of our present-day industrial system. It is the purposes of this Department to give also, with industrial training, some supplementary education, in order to develop intelligent and useful citizens are well as trained mechanics. Many of the industrial courses may be elected by students taking the college preparatory course.

The Industrial Courses of the Institute extend over a period of two years, for students having no high school preparation, or one year for those who have the necessary preparation.

The required work for the first year is algebra, English, history or some other acceptable elective. Students who desire to spend but a short time in learning the fundamentals of some trade will be permitted to enroll for a period of twelve weeks, by special arrangements

ELECTRICAL COURSE

AUTUMN

Elect. & Mag..... 5
 Elect. Wiring 2
 Mech. Drawing 5
 Wood Shop 3
 Forge Shop 3
 Pipe Fitting 2

WINTER

D. C. Machinery..... 5
 A. C. Principle..... 3
 Ele. Wiring 2
 Ele. Trig. 3
 Mach. Drawing 2
 Mach. Shop 4

SPRING

A. C. Machinery..... 5
 Ele. Wiring 2
 Wiring Plans & Est. 3
 Power Transmission
 & Distribution ... 3
 Electric Lighting ... 2
 Elect. Lab. 3

SURVEYING AND HIGHWAY CONSTRUCTION

Surveying 6
 Mat. of Const..... 2
 Mech. Drawing 5
 Test Lab. 3
 Topo. Drawing 2

Surveying 5
 Concrete 5
 Roads & Pav..... 5
 Trig. 5

Surveying 5
 Adv. Concrete 5
 Contracts & Spec.... 2
 Prof. Practice 1
 Highway Eng..... 5
 Concrete Lab. 2

CONCRETE CONSTRUCTION

Surveying 5
 Mat. of Const..... 2
 Mat. Test. Lab..... 3
 Mech. Drawing 5
 Forge Shop 5

Surveying 5
 Concrete 5
 Roads & Pav..... 5
 Trig. 5

Surveying 5
 Adv. Concrete 5
 Contracts & Spec.... 2
 Prof. Practice 1
 Concrete Lab. 4
 Arch. Drawing 3

STEAM ENGINEERING AND POWER PLANT OPERATION

| | | | | | |
|-------------------------------|---|-----------------------|---|----------------------|---|
| Steam Engines & Boilers | 5 | Inter. Comb. Eng..... | 5 | Tractors | 1 |
| Mech. Drawing | 5 | Mech. Drawing | 5 | Refrigeration | 3 |
| Forging | 3 | Mech. Lab. | 5 | Mech. Lab. | 3 |
| Pipe Fitting | 2 | Mach. Shop | 3 | Elect. Lab. | 2 |
| Elect. & Mag..... | 5 | D. C. Machinery..... | 5 | A. C. Machinery..... | 5 |
| | | Heat & Vent..... | 3 | Power Plant | 3 |

CONTRACTING AND BUILDING

| | | | | | |
|---------------------|---|---------------------|---|----------------------|---|
| Mech. Drawing | 5 | Archit. Draft. | 5 | Arch. Drafting | 5 |
| Surveying | 6 | Masonry & Con..... | 5 | Adv. Const. | 5 |
| Mat. of Const..... | 2 | Woodwork | 5 | Contr. & Spec..... | 2 |
| Test. Lab. | 3 | Heating & Vent..... | 5 | Prof. Pract. | 1 |
| Elect. Wiring | 2 | | | Carpentry | 7 |
| Pipe Fitting | 2 | | | | |

MACHINE DRAFTING

| | | | | | |
|-----------------------|---|--------------------------------|---|-----------------------|---|
| Ele. of Drafting..... | 7 | Machine Drawing.... | 7 | Adv. Mach. Draw.... | 7 |
| Freehand Draw. | 4 | Mechanism | 3 | Descriptive Geom..... | 5 |
| Forge Practice | 5 | Patent Office | | Office Practice | 1 |
| Elective | 5 | Practice | 2 | Mech. Perspect..... | 2 |
| | | Pattern Making & Foundry | 5 | Machine Shop | 5 |
| | | Elective | 3 | | |

STRUCTURAL DRAFTING

| | | | | | |
|-----------------------|---|----------------------|---|-----------------------|---|
| Ele. of Drafting..... | 7 | Structural Draft.... | 7 | Struct. Design | 7 |
| Freehand Draw. | 4 | Patent Office | | Desc. Geom. | 5 |
| Mat. of Const..... | 2 | Pract. | 2 | Office Practice | 1 |
| Testing Lab. | 2 | Graphics | 5 | Mech. Perspect. | 2 |
| Forge Practice | 5 | Elective | 3 | Elective | 5 |

ARCHITECTURAL DRAFTING

| | | | | | |
|-----------------------|---|----------------------|---|-----------------------|---|
| Ele. of Drafting..... | 7 | Archit. Draft. | 7 | Archit. Draft. | 7 |
| Freehand Draw. | 4 | Orders of Arch..... | 5 | Archit. Comp. | 5 |
| History of Arch..... | 2 | History of Arch..... | 2 | History of Arch. | 2 |
| Woodwork | 3 | Shades & Shadows.. | 5 | Office Practice | 1 |
| Elective | 5 | | | Perspective | 2 |

MACHINISTS' COURSE

| | | | | | |
|----------------------------|----|----------------------|----|----------------------------------|----|
| Forge and Bench Work | 10 | Lathe and Shaper.... | 10 | Adv. Mach. and Tool Making | 10 |
| Shop Mathematics .. | 5 | Shop Problems | 5 | Tool and Jig Design .. | 3 |
| Industrial English.. | 2 | Industrial English.. | 2 | Shop Management .. | 2 |
| Drawing | 3 | Drawing | 3 | | |

AUTOMOTIVE COURSES

These courses give a student practical automobile training. The work may be started at any time, but the best time is in September, in order that the full course may be completed before summer,—the time when work is plentiful. Any one with an eighth grade education or its equivalent may be admitted. Subjects taken in learning this trade are machine shop practice, blacksmithing, general auto repair, tire vulcanizing, storage battery and ignition, starting and lighting systems of the motor car.

Automotive mechanics is rapidly subdividing into four distinct trades: automotive electricians, engine and chassis workmen, tire vul-

canizers and builders, and automotive machinists. Our courses are planned so as to enable a student to become expert in one of these four lines of work. Those who expect to own or manage a general garage usually take two or more of the courses and in this way select the lines they wish to become competent to supervise. As some of the courses overlap it is often possible to complete two of the courses in less time than would be required if the courses were taken separately. Any part of a course may be taken by a student who can be at the University but a few weeks and wishes to specialize upon one phase of the course, providing he has the necessary prerequisites. Students who pass a satisfactory examination and demonstrate their ability to do first-class work and complete any one of the courses will be awarded a certificate for the same.

AUTOMOTIVE ELECTRICITY

First Quarter

| | |
|---------------------------|----|
| Elementary Lab. | 10 |
| Shop Mathematics | 5 |
| Shop English | 2 |
| Lecture and Problems..... | 3 |

Second Quarter

| | |
|-------------------------|----|
| Repair Lab. | 10 |
| Garage Management | 3 |
| Trouble Shooting | 3 |

ENGINE, CHASSIS, AND TROUBLE SHOOTING

| | | | |
|------------------------|----|-------------------------|----|
| Ele. Auto Lab..... | 20 | Assembly Repair | 20 |
| Shop Mathematics | 5 | Garage Management | 3 |
| Shop English | 2 | Trouble Shooting | 3 |
| Auto Lecture | 3 | | |

VULCANIZING

(One quarter)

| | |
|-------------------------|----|
| Repair | 20 |
| Shop English | 2 |
| Shop Mathematics | 5 |
| Garage Management | 2 |
| Problems | 2 |

COMMERCIAL COURSES

Students wishing to elect commercial subjects as a part of their preparatory course, or as a separate short course, may have this opportunity in the United Business Institutes, a separate corporation occupying rooms in Science Hall, on the University campus. This institution gives excellent instruction in bookkeeping, shorthand, typewriting, business English, secretarial work, and other subjects usually offered in a commercial school.

These courses do not carry college credit. They may apply to the extent of four units to fulfill college entrance requirements, but only if taken in residence.

UNIVERSITY EXTENSION DIVISION

GENERAL STATEMENT

The University Extension movement in education is comparatively new in the United States, and in its present form is very recent. Experience has already amply demonstrated, however, that many subjects can be taught successfully by correspondence. Indeed, the correspondence instruction method has some distinctive advantages of its own. The student studies with the realization that he is to recite on the entire lesson. Moreover, he recites by means of written work, which involves the digestion of the material and its organization in his own mind of definite expression. It is true that the student misses the personal contact with his instructors, and for this reason correspondence study will never supplant the class room method; but this loss is partly compensated by the fact that the student, in the nature of the case, develops self-reliance, initiative, perseverance, the spirit of investigation, and accuracy of expression.

The purpose of correspondence instruction is to reach that large number of men and women, some of them of mature years, whose duties and responsibilities make them unable to attend college in person. The home study method makes it possible for such people to do systematic and continuous educational work without interfering with the obligations and compensations of their present employment. Indeed, the work is directly intended in many cases to supplement their employment and make it more effective and remunerative. Correspondence study can also be carried on very advantageously by young people who are planning to attend the University later on, and who would like to make up conditions or secure advanced standing before they enroll. It is also a great convenience to students who have been in attendance at the University and have dropped out for a time and who would like an opportunity meanwhile to continue their work.

The correspondence method is not confined to any one kind of students. Any man or woman, be he or she day laborer, school teacher far removed from the college halls, clerk working in the office, club woman desiring to investigate some special topic, banker or business man wishing to keep in touch with educational interests, undergraduates or college graduates,—all of these may find profit and pleasure through the home study method of instruction.

Extension work has now become standardized among the Universities of the United States, and the Extension Division of Des Moines University conforms in all respects to accepted University Extension standards.

WORK AND CREDIT

Each correspondence course of college grade is designed to be equivalent in subject matter to the corresponding resident course. A five-hour course requires an amount of work which a student in residence would be expected to cover in twelve weeks, in a class meeting five hours a week. It is divided into 30 assignments, and earns five term-hours credit. Correspondingly, a four-hour course is divided into 24 assignments, earns four hours credit; a three-hour course, into 18 assignments, three hours credit; and a two-hour course, 12 assignments, two hours credit; the number of hours and credits in each case depending upon the extent of the subject matter covered in the course.

Many of the home-study courses, however, are not taken for college credit, the subject being of high school grade or purely vocational in character; or the student may not care for credit. Such courses also are conducted with careful regard to the requirements of the subject-matter, are of standard educational quality, are divided into definite assignments as are the credit-courses, and the method of procedure in conducting the work is the same.

METHOD OF INSTRUCTION

Instructors. All correspondence instruction by Des Moines University is carried on under the immediate supervision of the heads of the various departments, who are responsible for the subject-matter of the courses in their respective departments, for the correction of the assignments, and for the educational guidance of the student.

Procedure. The student enrolls for a certain course upon a specially prepared blank that will be sent from the Extension office upon request. Accompanying his application for enrollment, the student will send the fees for the course, in whole or in part as may be determined. A set of instructions will then be sent him indicating what books he will need for the course and any other necessary data. At the same time he will be sent the first three or four assignments of the course. As soon as he has completed the first assignment he will return it to the Extension office and will be sent the next assignment beyond those which he received at first; and so on throughout the course. His manuscripts will be returned to him after they have been corrected and graded by the instructor. At the conclusion, there will be an examination covering the work of the entire course. This examination will be given at the University, or locally through some public school official approved by the University. All correspondence should be carried on with the Extension Division office, unless the student wishes to write directly to his instructor concerning questions involving the subject-matter of the course.

Study. The student should carefully and faithfully study the work for each assignment before beginning his written recitation, doing in advance all the text book and collateral reading required. He should then write on the assignment without referring in any way to the books which he has studied, and without receiving any outside assistance. He should write in all respects as he would do in a class recitation. The student is placed upon his honor in this regard.

COURSES AND EXPENSES

| | |
|------------------------------------|---------|
| 5-hour course, 30 assignments..... | \$17.50 |
| 4-hour course, 24 assignments..... | 14.00 |
| 3-hour course, 18 assignments..... | 10.50 |
| 2-hour course, 12 assignments..... | 7.00 |

The fees for correspondence study are made as low as is consistent with the individual nature of the work. While these fees are somewhat larger than the tuition for resident study, the student should remember that he is taking the work in such a way as to make possible the continuance of his regular wages or salary, while the student in residence has to give up such employment and compensation. Information concerning the courses offered by Extension will be furnished on request and an enrollment blank will be sent. A special Extension bulletin will be sent on application, giving detailed information.

Address,
University Extension Division, Des Moines University,
Highland Park, Des Moines, Iowa.

UNIVERSITY SUMMER SCHOOL

The Summer School of Des Moines University is the regular summer quarter of the institution, similar to other quarters, with two exceptions: (1) the courses in education are strongly emphasized, for the accommodation of the increasing number of teachers desiring professional work in the summer session, and the faculty is increased to assist the regular staff in meeting the demand; and (2) the session is ten weeks instead of twelve, so that teachers may complete their work two or three weeks before the schools open in September. The difference is compensated by holding classes six days a week instead of five, thus satisfying all the requirements of a full quarter's work.

The Summer Quarter of 1922 begins June 12. The first term will be five weeks, six days a week, and those in attendance will vote whether to continue on the same basis for the second term or meet five days a week for six weeks.

Work will be offered during the Summer Quarter in the following Colleges and Schools of the University:

- I. College of Liberal Arts—All Departments.
- II. College of Education—All Departments.
- III. College of Engineering—All Departments.
- IV. School of Fine Arts—
 - Conservatory of Music.
 - Department of Drawing and Painting.
 - Department of Dramatic Art.
- V. University Institute.
 - Preparatory Department.
 - Industrial Department.
 - Commercial Courses.

Students who wish to do so can continue their regular college work during the Summer Quarter, and thus graduate in three years instead of four.

The work in the College of Education for the Summer Quarter will be divided into:

(1) College Credit Courses in Education, applying on the two-year courses leading to a third-grade state certificate without examination, and on the four-year courses leading to the first-grade state certificate without examination. The college credit courses in the College of Education embrace special work in Primary Training, Home Economics, Manual Training, Agriculture, Psychology, and Educational Subjects.

(2) Certificate Courses, preparing students to take examinations for the first, second, and third grade uniform county certificates, first and second grade state certificates, state diploma, and special primary state certificate.

The following is only a partial list of educators who will give special lectures:

Dr. Ernest Horn, Professor of Elementary Education and Director of the University Experimental School, the State University of Iowa. Three or four days.

Dr. W. F. Russell, Dean of the College of Education, the State University of Iowa.

J. W. Studebaker, Superintendent of the Des Moines City Schools.

P. E. McClenahan, Superintendent of Public Instruction.

Chas. F. Pye, Secretary Iowa State Teachers Association.

Tuition and fees are the same as for any other quarter in the University year.

A special announcement giving details of the Summer School will be sent upon request.

DANISH BAPTIST THEOLOGICAL SEMINARY

(AFFILIATED)

NELS S. LAWD AHL, D. D., *Dean*

HISTORICAL STATEMENT

Theological instruction among Danish Baptists dates back to 1873 when two Danish Baptists received instruction in "The Scandinavian Department" in the old University of Chicago, in 1876. Professor N. P. Jensen, himself a Dane, began instruction in the Danish language in this Scandinavian department and in 1884, when the Swedish Baptists left the "Baptist Union Theological Seminary," which, in 1877, had moved to Morgan Park, Illinois, the Danish-Norwegian department was organized under the leadership of Professor N. P. Jensen. In 1892 the "Baptist Union Theological Seminary" became the "Divinity School" of the University of Chicago, but the Danish department remained at Morgan Park as a department of the Divinity School. Its name was changed to the "Danish-Norwegian Theological Seminary." In the summer of 1912 the authorities of the University of Chicago thought that the time for a change had come, inasmuch as a new arrangement and location would have to be sought. Accordingly, the Danish School Committee went to work. The work, as it outlined itself before this committee, was clear. They would have to find a Baptist School centrally located for missionary work among Danish Baptists, an institution that would be willing to let the Danish theological students receive instruction in the different college classes free of charge in such preparatory studies as the student would require. At the Danish Baptist General Conferences at Clarks Grove, Minnesota, September, 1912, the School Committee reported in favor of Des Moines University. This report was received by the Conference with great enthusiasm and it was voted to move the school to Des Moines in the fall of 1913, under the new name of "The Danish Baptist Theological Seminary."

This new school opened its doors for the first time in September, 1913, as an affiliated institution with Des Moines University, and yet at the same time an independent school with a specific work.

INFORMATION AND REGULATIONS

1. **REGULAR COURSE.** The regular seminary course covers four years. Two years are given to preparatory studies and two to theological studies. Each year consists of thirty-six weeks divided into three terms of 12 weeks each.

2. **RULES FOR GRADUATION.** In order to graduate from the Seminary in four years, the student will be required to carry three studies a day, four or five days a week, and at the end of each term to pass an examination satisfactory to the instructor under whom he has studied. Each study extending over a period of 12 weeks, one hour each day, is called a "Major." Half a major is called a "Minor." Some of the courses offered, however, extend through the whole school year. In order to graduate from the Seminary, thirty-six majors will be required, eighteen majors of preparatory studies and eighteen majors of theological studies. The Seminary is, however, open to anyone, even though he is not able to take a regular four years' course. The degree of Bachelor of Theology is conferred upon those who complete, in a satisfactory manner, the prescribed 36 majors for graduation.

The Seminary is also open for women who desire to take up certain lines of study, preparing them in a general way for missionary work.

3. **FINAL EXAMINATIONS.** During the student's last year in school and before his certificate of graduation will be issued, he will be asked to present to the faculty a written thesis on a topic selected by himself in consultation with the dean. He must also pass through a final oral examination covering at least three theological studies.

COURSES TO BE GIVEN DURING THE SCHOOL YEAR 1922-1923

1. **SYSTEMATIC THEOLOGY.** This course is intended to set forth what basis we have for our faith in God, how little or how much we know of Him, His work in the universe and His relationship to us and our relationship to Him. This course treats among other topics: The Bible, Its Inspiration, Its Authority, God, Man, Sin and the Fall, Redemption, Christ's Second Coming, Judgment and the End of the World, Last Things. (Three Majors.) Throughout the year, 5 hours.

2. **CHURCH HISTORY.** This course takes up the Preparation of the World for Christ, the Fullness of Time, the Jewish, Greek and Roman World, Establishment of the Church, the Church in Conflict with Heathenism, Persecution, Rise of the Episcopate, Church Discipline, Life and Worship, Sects and Heresies, the Church Fathers, the Church becomes a State Church, the Mediaeval Church, its Missionary Propaganda, the Crusades, Ante-Reformers, the Reformation and the Reformers; Luther, Zwingli, Calvin, the Anabaptists in Switzerland, Germany, England, United States, Denmark, Sweden and Norway. (Three Majors.) Throughout the year, 5 hours.

3. **BIBLICAL HERMENEUTICS OR PRINCIPLES OF BIBLICAL INTERPRETATION.** The Interpreter himself, the Book, General Principles of Interpretation, Methods to be used, figurative language of Scripture, difficulties in the Bible, Scriptural types of different kinds, interpretation of prophecy, quotations from the Old Testament in the New and kindred topics. (One Major.) Autumn quarter, 5 hours.

4. **EXEGETICAL COURSE.** The letter to the Romans and Galatians will be taken up for specific study. Introduction of the letter, purpose, argument, Paul's teachings and theology. One Major, Romans, winter quarter, 5 hours; one major, Galatians, spring quarter.

5. **BIBLE STUDY.** 5 hours. A constructive study of the Old Testament with special reference to critical analysis and sermonizing.

6. **CHURCH POLITY AND PASTORAL THEOLOGY.** A. The Church, its New Testament Origin and Function, its Government and its Ordinances. B. The minister himself, his call, his conduct, his service in the House of God, as well as his ministry among his people and in the community. (One Major.) Winter quarter, 5 hours.

7. **GREEK FOR BEGINNERS.** This course is compulsory only for those students who, in the judgment of the faculty, can in a comparatively short time gain a practical and workable knowledge of New Testament Greek. (Three Majors.) Throughout the year, 5 hours.

8. **ENGLISH GRAMMAR, COMPOSITION AND LITERATURE.** For beginners, English I, II, III, IV. As a knowledge of English among the students of this Seminary will in the nature of the case vary greatly, no set rule with reference to classes and school year can be followed. Courses in English of almost every description adapted to the varied needs of the student will be given in the different departments of Des Moines University.

DEGREES CONFERRED IN 1921 BY DES MOINES UNIVERSITY

BACHELOR OF ARTS

| | |
|---------------------------|---------------|
| Armstrong, Bernard W. | Des Moines |
| Andrew, Lena | Des Moines |
| Barnes, Sylvia | Lovilla |
| Barnett, Besse | Glenwood |
| Beebout, Evelyn Slayman | Attica |
| Blair, Helen | Des Moines |
| Brinton, Deborah D. | Des Moines |
| Christiansen, Clarence H. | Ruthven |
| Clark, Raymond G. | Des Moines |
| Dansdill, Theresa | Des Moines |
| Davies, William James | Knoxville |
| Diederich, Anthony | Patterson |
| Gannon, John C. | Newburg |
| Gilson, Fred Leroy | Knoxville |
| Gilson, John Gustave | Knoxville |
| Grarup, Nels C. | Des Moines |
| Gray, Ruby Pearl | Lorimor |
| Hackett, Alta Loomis | Ames |
| Hedinger, Raymond M. | Corning |
| Ketman, Lillian | Des Moines |
| Kluckhohn, Harvey N. | Garner |
| Laughlin, Mary Irene | Huron, S. D. |
| Lawdahl, William C. | Des Moines |
| McBride, Wendell S. | Rippey |
| Miller, Genevieve S. | Mediapolis |
| Mona, Fred W. | Packwood |
| Nelson, Mildred | Des Moines |
| Nicholson, Morris O. | Des Moines |
| Ogden, Gladys G. | Oskaloosa |
| Pennington, Fred A. | Des Moines |
| Prettyman, Myrtle | Coon Rapids |
| Prentis, Fenton A. | Pleasantville |
| Shippey, Merle D. | Des Moines |
| Vaughan, Herbert Edwards | Des Moines |
| Willet, Vernon P. | Centerville |
| Yarnes, Bethula | Spirit Lake |

BACHELOR OF SCIENCE

| | |
|---------------------|---------------|
| Akey, Raymond L. | Keota |
| Carter, Leslie B. | Greenfield |
| Ferris, Arthur H. | North English |
| Spalding, Arthur M. | Des Moines |

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

| | |
|------------------------|------------|
| Faul, Alfred F. | Denison |
| Lewis, Edwin Whitfield | Des Moines |

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

| | | |
|--------------------|-------|-------------|
| Crawford, Harry V. | ----- | New Hampton |
| Griswold, Wayne A. | ----- | Wyoming |

BACHELOR OF MUSIC

| | | |
|----------------------|-------|--------------|
| Auten, Viola Grace | ----- | West Chester |
| Laughlin, Mary Irene | ----- | Huron, S. D. |
| Moore, Catherine | ----- | Des Moines |

PHARMACEUTICAL CHEMIST

| | | |
|---------------|-------|--------------|
| Rehn, Carl F. | ----- | Wilcox, Neb. |
|---------------|-------|--------------|

GRADUATE IN PHARMACY

| | | |
|------------------------|-------|--------------------|
| Barr, Ray Alfred | ----- | Mitchellville |
| Buechele, Keith | ----- | Waterloo |
| Christlieb, John M. | ----- | Wilcox, Neb. |
| Closson, Frank A. | ----- | White Lake, S. D. |
| Conwell, Vernice | ----- | Fort Dodge |
| Couchman, Thomas B. | ----- | Des Moines |
| Curtis, George | ----- | Chariton |
| Evans, George A. | ----- | Malad, Idaho |
| Fowler, Lowell H. | ----- | Grand Junction |
| Gaines, I. B. | ----- | Watson, Mo. |
| Hawley, Helen | ----- | Des Moines |
| Legg, R. Eugene | ----- | Des Moines |
| Meredith, Thomas T. | ----- | Madison, S. D. |
| Molleston, Paul Marvin | ----- | Lineville |
| Murphy, William K. | ----- | Des Moines |
| Plagman, Herbert C. | ----- | Peterson |
| Putnam, Gail O. | ----- | Ladysmith, Wis. |
| Reite, Alf W. | ----- | Portal, N. D. |
| Roberts, Theresa | ----- | Des Moines |
| Ryan, Loren F. | ----- | Sioux Falls, S. D. |
| Sheldon, Clell R. | ----- | White Lake, S. D. |
| Snow, Eldred F. | ----- | La Salle, Ill. |
| Watson, Ernest F. | ----- | Winfield, Mo. |
| Wells, Clyde | ----- | Newton |

DIPLOMAS IN TWO-YEAR NORMAL COURSES

| | | |
|--------------------------|-------|----------------|
| Brenn, Anna Mae | ----- | Omaha, Neb. |
| Caldwell, Muriel | ----- | Tekamah, Neb. |
| Calkins, Dayle Genevieve | ----- | Clear Lake |
| Fouch, Blanche | ----- | Rippey |
| De Jarnette, Pearl | ----- | Des Moines |
| Denholm, Jennie C. | ----- | Des Moines |
| Dirst, Maude E. | ----- | Hampton |
| Elliott, Mildred D. | ----- | Middletown |
| Fellingham, Ruth A. | ----- | Des Moines |
| Garner, Grace | ----- | Jamestown, Pa. |
| Garrett, Harris L. | ----- | Waterloo |
| Good, Lena | ----- | Bloomfield |
| Gregerson, Alfred J. | ----- | Kirkman |
| Griffin, Cecile | ----- | Ruthven |
| Holmes, E. Mildred | ----- | Oskaloosa |
| Ickis, Gertrude L. | ----- | Creston |
| Iler, Edna | ----- | Des Moines |
| Jeffries, Vera I. | ----- | Horace, Neb. |
| Johnson, John O. | ----- | Unionville |

| | |
|-----------------------|---------------|
| Johnson, Merian | Des Moines |
| Kaster, Gladys Marie | Sperry |
| Lindeman, Ethel A. | Fontanelle |
| Loomis, Dorothy L. | Des Moines |
| Lyman, Mabelle | Des Moines |
| McCaffree, Helen | Hampton |
| McDowell, Jane | Kirkman |
| Manbeck, Helen J. | Des Moines |
| Moore, Margaret A. | Decatur, Neb. |
| Newton, Irma M. | Anita |
| Parsons, Mabel A. | Rockwell City |
| Peterson, Evelyn F. | Hawarden |
| Reynolds, Doris | Gilbert |
| Snyder, Glen E. | Dumont |
| Sprague, Vera G. | Cedar Falls |
| Stringham, Frances M. | Des Moines |
| Weir, Loretta A. | Hull |
| Wilson, Lucile | Sac City |

CERTIFICATE IN ONE-YEAR ELECTRICAL COURSE

| | |
|--------------------|-------------|
| Anders, Wallace E. | Omaha, Neb. |
|--------------------|-------------|

DANISH BAPTIST THEOLOGICAL SEMINARY

(AFFILIATED)

BACHELOR OF THEOLOGY

| | |
|------------------------|------------|
| Christopherson, Andrew | Des Moines |
| Peterson, Janus Peter | Des Moines |

ROSTER OF STUDENTS

COLLEGES OF LIBERAL ARTS AND EDUCATION

SENIORS

| | |
|--------------------------|--------------------|
| Anderson, Rebecca | Humboldt |
| Broholm, Rhoda C. | Storden, Minn. |
| Byerly, Samuel L. | Elkhart |
| Fenton, Everett O. | Plano |
| Ferguson, Clarence R. | Des Moines |
| Frey Meyer, Daniel K. | Des Moines |
| Garber, E. Ruth | Des Moines |
| Graber, Leroy Everett | Des Moines |
| Gramstad, Hubert G. | Callender |
| Hackett, Dutton, P. | West Union |
| Helmbrecht, Bernard | Des Moines |
| Hemming, George R. | Rockwell City |
| Henley, Theresa | Des Moines |
| Jensen, Harold | Des Moines |
| Johnson, E. Evelyn | Des Moines |
| Johnson, J. Oscar | Unionville |
| Kincaid, William J. | Des Moines |
| Lindburg, Edwin D. | Polk, Neb. |
| Mann, Thomas C. | Sully |
| Miller, Oscar E. | Beaver Dam, Wis. |
| Moroney, Alice Irene | Des Moines |
| Nelson, Ada | Robinsdale, Minn. |
| Olson, Louise M. | Jewell |
| Paul, Viola | Dow City |
| Plimpton, Edwin G. | Glenwood |
| Rhyne, Conway L. | Park Rapids, Minn. |
| Roedl, Leo J. | Beaver Dam, Wis. |
| Ross, Russell C. | Longmont, Colo. |
| Shields, Esther | Lacona |
| Smith, Ertle Mae | Fort Dodge |
| Stephenson, Earl R. | Lanyon |
| Thompson, Mildred Lucile | Des Moines |
| Tway, Edward S. | Des Moines |
| Wilkins, Sylvia May | Des Moines |
| Wright, Laura Lucile | Mount Ayr |

JUNIORS

| | |
|-------------------|--------------|
| Alexander, Rubert | Promise City |
| Anderson, Rosetta | Des Moines |
| Backman, Lorene | Des Moines |
| Baird, Lula L. | Des Moines |
| Ballow, Ethel | Des Moines |
| Barr, Florence | Des Moines |
| Bartram, Lois | Des Moines |
| Bingham, G. W. | Des Moines |

| | |
|---------------------|----------------------|
| Brock, Cecile | Des Moines |
| Brown, Edmund L. | Bloomfield |
| Burns, Lillian | Des Moines |
| Byerly, Oliver C. | Elkhart |
| Carlson, Minnie | Des Moines |
| Childs, Isabel | Des Moines |
| Conrad, George C. | Mapleton, Minn. |
| Craig, Gladys Marie | Des Moines |
| Dale, Lillian | Des Moines |
| De Jarnette, Pearl | Des Moines |
| Denholm, Jennie | Des Moines |
| Dible, Leola | Sigourney |
| Dicks, Jessie E. | Des Moines |
| Edwards, Alvin | Cedar Rapids |
| Edstrom, Signe | Des Moines |
| Ellis, Richard G. | Norwalk |
| Ford, Vivian | Columbus, N. D. |
| Garlock, Garnett | Des Moines |
| Garrison, Helen | Ogden, Utah |
| Gilbert, Cynthia | Wayne, Neb. |
| Goldizen, Mae | Des Moines |
| Hagler, Addie | Des Moines |
| Hall, Delno E. | Des Moines |
| Hall, Grace Johns | Des Moines |
| Hardin, Faye M. | Des Moines |
| Hites, Maynard | Ainsworth |
| Holmes, E. Mildred | Oskaloosa |
| Hooks, Lester | Hedrick |
| Iler, Edna | Des Moines |
| Joseph, Lillian | Des Moines |
| Keen, Burlin | Indianola |
| Kleinfelter, Emma | Des Moines |
| Knudsen, Ralph E. | Harlan |
| Kooker, Mae E. | Des Moines |
| Langfitt, Ellice | Des Moines |
| Lee, Ethel | Des Moines |
| Leftwich, Metta | Des Moines |
| Lewis, Dorothy | Des Moines |
| Lichty, Elva | Des Moines |
| McConnell, Belle | Des Moines |
| McKay, La Vonne | Des Moines |
| McKinney, Glen | Fremont |
| McLain, Leona | Des Moines |
| McNeill, Grace | Des Moines |
| Morrison, Darrell | Clinton Falls, Minn. |
| Morrison, Donald | Clinton Falls, Minn. |
| Oyler, Nellie | Des Moines |
| Porter, Nellie A. | Des Moines |
| Rhodes, Dolly B. | Des Moines |
| Richard, Edith | Des Moines |
| Sater, Enid | Danville |
| Sheehan, Cecelia | Des Moines |
| Sister Mary Stella | Des Moines |
| Sturgeon, Mary | Des Moines |
| Tate, Emma J. | Des Moines |
| Taylor, May Ellen | Des Moines |
| Tenny, Mildred | Des Moines |
| Thomas, Elden | Calvin, N. D. |

| | |
|------------------------|------------|
| Thompson, Elizabeth M. | Des Moines |
| Thompson, Virginia L. | Des Moines |
| Tilford, Lela | Ireton |
| Troutner, Grace | Des Moines |
| Vass, Edna | Des Moines |
| Wolcott, Jean | Des Moines |
| Worcester, Irene L. | Des Moines |
| York, Nelle J. | Des Moines |

SOPHOMORES

| | |
|------------------------|--------------------|
| Baird, Eva M. | Des Moines |
| Baldrige, Marie | Des Moines |
| Bayless, Florence | Des Moines |
| Benson, Clifford | Alta |
| Betts, Emmet | Grimes |
| Black, Janie | Hartford |
| Bonstel, Charlene | Des Moines |
| Broad, Mary Marie | Des Moines |
| Broadwell, Mildred | Spirit Lake |
| Brookover, Marion | Des Moines |
| Brown, Mildred | Des Moines |
| Burch, Edwin W. | Rockwell City |
| Caughlan, Marabel | Des Moines |
| Cone, Dorothy | Windom, Minn. |
| Connolly, Winifred D. | Des Moines |
| Crossland, Lawrence | Seymour |
| Curtis, Dean | Chariton |
| Dilley, Irene | Jefferson |
| Doughman, Margaret | Des Moines |
| Eggleston, Cecile | New London |
| Elliott, Nellie L. | Des Moines |
| Enabnit, Merlin | Des Moines |
| Evans, George | Peoria, Ill. |
| Farnsworth, Jennie L. | Des Moines |
| Fenton, Raymond | Plano |
| Fenton, Stephen D. | Plano |
| Fitting, Mayme | Des Moines |
| Frando, Venancio | Philippine Islands |
| Good, Lena | Bloomfield |
| Goodwin, Ethel | Des Moines |
| Green, Loleta | Westboro, Mo. |
| Greenman, Robert | Indianola |
| Guernsey, Constance V. | Bloomfield |
| Haines, Paul | Seymour |
| Hyndman, Hazelle | Des Moines |
| Iler, Vesta | Des Moines |
| Johnson, Tressa | Waukon |
| Kaiser, Andrea | Pocahontas |
| Kalp, Earl S. | Des Moines |
| Kidd, George | Chicago, Ill. |
| Keefe, Mary | Des Moines |
| Keefe, Rosalie | Des Moines |
| Korte, Ida | Melbourne |
| La Favor, Claire | Des Moines |
| Laird, Adelaide | Des Moines |
| Lamoreaux, Bertha | Des Moines |
| Larson, Evelyn M. | Harlan |
| Lawdahl, Naomi | Des Moines |
| McDonald, Elizabeth M. | Des Moines |

| | |
|----------------------|-------------------|
| McLaughlin, Cecil L. | Diagonal |
| Manley, Olive | Des Moines |
| Marsh, William | Des Moines |
| Mason, Elizabeth | Des Moines |
| Mendenhall, Elvin C. | Des Moines |
| Miller, Thelma | Des Moines |
| Minick, Frances | Des Moines |
| Moffatt, Ernest | Mount Ayr |
| Monroe, John | Fairfield |
| Mosier, Louise | Des Moines |
| Muller, Adelaide | Victor |
| Namanny, Harry | Des Moines |
| Nelson, Mildred | Des Moines |
| Nelson, Miriam | Creston |
| Osberg, Bryan | Des Moines |
| Owen, Harold | Seymour |
| Pancake, Genevieve | Shenandoah |
| Parker, O. Wendell | Des Moines |
| Patterson, Gail | Lake City |
| Patterson, Vernon D. | Des Moines |
| Peasley, Ruth E. | Des Moines |
| Peterson, Janus P. | Des Moines |
| Phillips, Blanche | Des Moines |
| Pierson, Estell F. | Des Moines |
| Pike, Bertha | Des Moines |
| Plagman, George F. | Peterson |
| Porter, Martha I. | Des Moines |
| Presnell, William | Algona |
| Rider, Thomas D. | Fairfield |
| Rothrock, Mae E. | Webster City |
| Ruemper, Raymond S. | Radcliffe |
| Schilling, Helen P. | Des Moines |
| Schmidt, Louise | Victor |
| Scott, Iva C. | Des Moines |
| Seeber, Gertrude | Des Moines |
| Seward, William J. | Valley Junction |
| Shriver, John | Seymour |
| Smith, Retta | Des Moines |
| Snyder, Emory | Norwalk |
| Spurgeon, Velma | Poplar Bluff, Mo. |
| Stickel, Mary | Renwick |
| Stohlgren, Anna | Des Moines |
| Stoker, Anna Maye | Des Moines |
| Strobridge, E. Glen | Des Moines |
| Thompson, Katherine | Des Moines |
| Toomey, Katherine | Des Moines |
| Walden, Mildred | Des Moines |
| Wall, Florence | Des Moines |
| Webb, Alice | Oelwein |
| Williams, Carl J. | Des Moines |
| Wilson, Bessie B. | Des Moines |
| Wood, Jennie M. | Des Moines |
| Woodard, Genevieve | Des Moines |
| Wright, Gail | Des Moines |
| Yeager, Rilla | Des Moines |

FRESHMEN

| | |
|-------------------|------------|
| Allen, William S. | Burlington |
| Anderson, Lula E. | Des Moines |

| | |
|----------------------|---------------------|
| Andrews, George C. | Des Moines |
| Armbruster, Emma | Des Moines |
| Astley, Richard J. | Des Moines |
| Ballantine, David | Arion |
| Baxter, Richard | Madrid |
| Beach, Julia | Des Moines |
| Beck, Edith | Des Moines |
| Belton, Xela Chantry | Des Moines |
| Benson, Mildred | Swaledale |
| Berry, Stella | Des Moines |
| Betz, Elmer C. | Grimes |
| Binkley, Gertrude | Des Moines |
| Blackman, Frances | Des Moines |
| Brendel, Winifred | Sheldahl |
| Brick, May | Des Moines |
| Broholm, Alvin C. | Storden, Minn. |
| Broholm, Stella | Storden, Minn. |
| Brown, Russell C. | Des Moines |
| Broyles, Ralph | Des Moines |
| Buckley, Helena | Granger |
| Burnett, Clyde | Mount Vernon |
| Burnett, Myra | Payette, Idaho |
| Butler, Mabel | Baxter |
| Campbell, James M. | Des Moines |
| Carter, Florence M. | Des Moines |
| Cassaday, Marion | Denison |
| Cates, Lester G. | Seymour |
| Chantry, Ella C. | Des Moines |
| Chappel, Bessie | Des Moines |
| Church, Mildred | Hillsboro |
| Cohen, Ida | Des Moines |
| Cope, Inez | Des Moines |
| Cortelyou, Stella | Des Moines |
| Craft, Melvin D. | Mount Vernon, S. D. |
| Cramer, Bess | Des Moines |
| Cummings, Edna | Des Moines |
| Cunningham, Mary E. | Des Moines |
| Curtis, Grace | Des Moines |
| Davies, Elizabeth | Spencer |
| Davis, Eva | Des Moines |
| De Hart, L. Bruce | Des Moines |
| Dickey, Anna | Des Moines |
| Dinges, Lulu W. | Des Moines |
| Eaton, Alice G. | Des Moines |
| Eddy, Lawrence | Swaledale |
| Edwards, Lydia | Des Moines |
| Eide, Esther B. | Des Moines |
| Ellefson, Olley D. | Callender |
| Ellis, Xenia M. | Des Moines |
| Enabnit, Gladys | Des Moines |
| Eno, Betty | Des Moines |
| Eshelman, Lucy T. | Des Moines |
| Ewing, Maude E. | Des Moines |
| Faulkner, Faye | Valley Junction |
| Flint, Alice | Bethany, Mo. |
| Foulke, Clarence | Carlisle |
| Frandsen, Kathryn | Des Moines |
| Frise, Mae | Des Moines |

| | |
|------------------------|---------------------|
| Garrettson, Charles E. | Winterset |
| Gertsch, Clara | Runnells |
| Gill, Emma M. | Des Moines |
| Gladstone, Ardelia | Des Moines |
| Goldenson, Mose | Des Moines |
| Gregory, Elmer C. | Carlisle |
| Hadley, Ralph J. | Des Moines |
| Hamilton, L. Mae | Des Moines |
| Hanselman, John E. | Des Moines |
| Hanson, Lessie K. | Des Moines |
| Harden, Donovan | Blairstown |
| Harmon, Marie | Sheldahl |
| Hartman, Belle | Des Moines |
| Hartung, Robert | Berwick |
| Harvey, Chester W. | Lucas |
| Hawn, Bert | Dawson |
| Hearty, Susan | Des Moines |
| Heidman, Lena G. | Granger |
| Hoffman, Alberta | Des Moines |
| Holt, Charles | Somers |
| Howard, Honora | Des Moines |
| Hufford, Cleo | Granger |
| Hughett, Melvin | Fort Dodge |
| Hume, Janet | Des Moines |
| Hunt, Helen | Des Moines |
| Hunter, Clarence | Madrid |
| Huntzinger, Alta | Des Moines |
| Ingle, Florence | Bondurant |
| Irelan, Oliver | Unionville |
| Jeffries, Gladys E. | Baxter |
| Johnson, Ruth | Ida Grove |
| Johnson, Sarah | Ida Grove |
| Kagy, Virginia L. | Des Moines |
| Kanne, Dorothea | Baxter |
| Kaslow, Floyd W. | West Concord, Minn. |
| Kaslow, George W. | West Concord, Minn. |
| Keeney, Margaret | Des Moines |
| Kennedy, W. Earl | Cumming |
| Kennedy, Hazel M. | Valley Junction |
| Kilworth, Ella | Exira |
| King, Estella | Des Moines |
| Kingsley, Philip F. | Cascade |
| Cluever, Carl C. | Atlantic |
| Knox, Clifford | Des Moines |
| Latimer, Donna | Bloomfield |
| Lee, Helen | Des Moines |
| Lewis, Herbert A. | Storm Lake |
| Linguist, Ethel | Kiron |
| Locke, Esther | Churdan |
| Lyon, William F. | Colfax |
| McCaulley, Lois | Lake City |
| McCoy, Max | Blakesburg |
| McCulloch, F. E. | Des Moines |
| McDonald, Marie | Eagle Grove |
| McDonald, Nellie S. | Des Moines |
| McKechnie, Donald M. | Calvin, N. D. |
| McKinnon, John | Page, N. D. |
| Madsen, Floyd M. | Lake City |

| | |
|-----------------------|-----------------|
| Mason, Lysle C. | Slater |
| Miles, Ramona V. | Des Moines |
| Mills, James J. | Des Moines |
| Mohler, Wilma | Carroll |
| Montooth, Molly | Des Moines |
| Moore, Flo | Albia |
| Moore, Perry A. | Atlantic |
| Mosier, Alice F. | Des Moines |
| Mott, Helen | Carlisle |
| Mullenix, Wilber | Ottumwa |
| Murray, J. Arnold | Emmetsburg |
| Neely, Hazel E. | New Hampton |
| Nelson, Sarah Phyllis | Dallas |
| Newlove, Edith V. | Des Moines |
| Nordstrom, Margaret | Fort Dodge |
| Odell, Leland | Des Moines |
| Olson, Alice A. | Des Moines |
| Olson, Ethel | Callender |
| Osborn, Marian L. | Des Moines |
| Overton, F. Gay | Carlisle |
| Owens, Guy | Carlisle |
| Pedersen, Esther N. | Missouri Valley |
| Peterson, Kenneth L. | Waterloo |
| Poage, William F. | Baxter |
| Povall, Edith A. | Des Moines |
| Power, Lorn W. | Gilbert, Minn. |
| Poyzer, Jessie F. | Spirit Lake |
| Priest, Lucile | Bloomfield |
| Ralston, John W. | Keota |
| Reeser, Mabel | Denison |
| Rice, Nellie | Des Moines |
| Richards, Aletha | Des Moines |
| Robbins, Jennie A. | Des Moines |
| Rcho, Harold | Des Moines |
| Rogers, Clarence M. | Ellston |
| Ruemper, Ethel G. | Radcliffe |
| Rumsey, Luella E. | Des Moines |
| Rust, Arthur | Sheffield |
| Rust, Orville | Sheffield |
| Scarpino, William | Des Moines |
| Schlaman, Margaret E. | Anamosa |
| Searl, Maude | Des Moines |
| Seems, Ida | Des Moines |
| Sexauer, Marie | Madrid |
| Shekels, Clara | Des Moines |
| Sister Mary Alfreda | Des Moines |
| Sister Mary St. Cyr | Des Moines |
| Snyder, J. Wayne | Waukee |
| Sollie, Arthur S. | Callender |
| Spence, Neva | Des Moines |
| Sprout, Harvey | Emmetsburg |
| St. John, Lounet | Des Moines |
| Stuckey, Ruth E. | Centerville |
| Stukenberg, Verna M. | Radcliffe |
| Sullivan, S. Lowell | Bloomfield |
| Tanner, Minnie | Mitchellville |
| Tatum, Leona | Nora Springs |
| Tatum, Verna | Nora Springs |

| | |
|---------------------|------------|
| Tennant, Cora | Des Moines |
| Teter, Marie | Hillsboro |
| Tew, Rollo E. | Des Moines |
| Thomas, Mrs. C. R. | Des Moines |
| Thompson, Clarence | Des Moines |
| Thomsen, Edward J. | Harlan |
| Tilden, Ida M. | Des Moines |
| Toay, Bennett | Des Moines |
| Treat, Glenn H. | Ayrshire |
| Underwood, Theola | Murray |
| Walker, Minnie M. | Des Moines |
| Wall, Maude | Des Moines |
| Wall, William L. | Des Moines |
| Welch, Alena | Des Moines |
| Welch, Mae | Des Moines |
| Wells, Paul H. | Chariton |
| Wells, Ruth J. | Des Moines |
| West, Marie | Des Moines |
| Wicks, Howard | Des Moines |
| Wilcox, Mabel D. | Shenandoah |
| Wiley, Blanche | Des Moines |
| Williams, Helen | Duncombe |
| Williams, Ruth | Duncombe |
| Williamson, Bessie | Des Moines |
| Winslow, Florence | Des Moines |
| Wirtz, Dwight C. | Des Moines |
| Wood, Ruth | Des Moines |
| Woodcock, Grace | Des Moines |
| Woodford, Inez | Grimes |
| Woodsum, Mildred M. | Creston |
| Wynkoop, Grace | Des Moines |
| Zinser, Ruth | Goldfield |
| Zwickey, Mavis | Storm Lake |

SPECIAL STUDENTS

| | |
|---------------------|--------------|
| Adams, Helen Grace | Des Moines |
| Barnes, Eva | Des Moines |
| Bennett, Bird D. | Des Moines |
| Bradley, Anna L. | Des Moines |
| Bradshaw, Jessie L. | Des Moines |
| Brown, Alta | Des Moines |
| Brown, Blanche | Des Moines |
| Bush, Anna | Des Moines |
| Church, Helen E. | Des Moines |
| Christlieb, John M. | Wilcox, Neb. |
| Condran, Margaret | Des Moines |
| Crabbe, Eloise | Des Moines |
| Dinges, Mattie R. | Des Moines |
| Donnelly, Joan | Boone |
| Donnelly, Maureen | Boone |
| Duval, Savannah | Des Moines |
| Eilertson, Harold | Des Moines |
| Favre, Anna | Des Moines |
| Garrettson, Orval | Des Moines |
| Geisse, Bertha | Des Moines |
| Bergerding, Daisy | Des Moines |
| Gower, Ida M. | Des Moines |
| Grimes, Georgia | Des Moines |
| Hainline, Floyd H. | Des Moines |

| | |
|----------------------------|-------------|
| Haley, Katherine | Des Moines |
| Hanson, Thomas | Coon Rapids |
| Holmes, Alice M. | Des Moines |
| Jeffers, Edna V. | Bondurant |
| Kern, Bernice | Des Moines |
| King, Forest A. | Des Moines |
| Kyle, Flora | Des Moines |
| Leasure, Emma | Des Moines |
| Leffert, Lillian | Des Moines |
| Lohman, Ione | Des Moines |
| McClure, Nellie M. | Des Moines |
| McGuire, Margaret | Des Moines |
| McLaughlin, M. | Des Moines |
| Myers, Francis | Des Moines |
| Nicholson, Esther V. | Des Moines |
| Owens, Lottie | Des Moines |
| Pennington, Fred A. | Des Moines |
| Pope, Hetta | Des Moines |
| Reese, Arthur | Linn Grove |
| Russell, Mary | Des Moines |
| Shuell, Mary M. | Des Moines |
| Snider, May | Des Moines |
| Spoor, Clara | Des Moines |
| Storey, Alice B. | Des Moines |
| Stroud, Minnie K. | Des Moines |
| Swope, Alice | Des Moines |
| Sister of Charity B. V. M. | Des Moines |
| Sister Mary Clotilda | Des Moines |
| Sister Mary Regis | Des Moines |
| Wilcox, Emily | Des Moines |
| Wilbur, Lydia M. | Des Moines |
| Yates, Edith | Des Moines |

COLLEGE OF ENGINEERS

SENIORS

| | |
|--------------------|------------|
| Heinlen, Harlan C. | Des Moines |
| Morton, Samuel L. | Menlo |

JUNIORS

| | |
|----------------------|------------|
| Peterson, Everett E. | Hawarden |
| Skeeters, Russell | Des Moines |

SOPHOMORES

| | |
|-----------------------|--------------------|
| Aganad, Saturnino | Philippine Islands |
| Anderson, Raymond O. | Des Moines |
| Bayless, Leo | Kellerton |
| Becker, Gerald | Des Moines |
| Brendel, Frank | Des Moines |
| Caldwell, Dean B. | Des Moines |
| Cherry, Vern C. | Des Moines |
| Dunn, James | Des Moines |
| Frye, Clair V. | Des Moines |
| Fouser, Albert L. | Salem, S. D. |
| Garber, Paul | Des Moines |
| Graham, Vere I. | Des Moines |
| Gravengaard, Elmer M. | Des Moines |
| Howard, Donald | Des Moines |
| McBride, Roy N. | Des Moines |
| O'Mara, James | Elkhorn |
| Smith, Casper | Des Moines |
| Starr, William J. | Northville, Mich. |
| Stringham, Raber Paul | Des Moines |

FRESHMEN

| | |
|------------------------|--------------------|
| Anderson, Arthur J. | Callender |
| Anderson, Rudolph E. | Des Moines |
| Aquino, Guillermo | Philippine Islands |
| Barker, Clark | West Union |
| Boynton, Orville W. | Webster City |
| Chestek, Edward E. | Charles City |
| Dawson, Orie V. | Des Moines |
| Drewelow, George | New Hampton |
| Drewelow, Reinhart | New Hampton |
| Elbasani, Alexander S. | Elbason, Albania |
| Flatt, Harvey L. | Spirit Lake |
| Foster, Don A. | Chariton |
| Gains, Crayton W. | Colfax |
| Garber, Neil E. | Des Moines |
| Garrett, Henry J. | Des Moines |
| Gustafson, Vern A. | Des Moines |
| Hall, Wallace S. | Des Moines |
| Jefferson, Chas. H. | Casey |
| Johnson, Paul C. | Wauke |
| Kiser, Darwin R. | Everly |
| Koeberle, Harold | Summer |
| Latta, Fred | Des Moines |
| McLees, John W. | Valley Junction |
| Parks, Harold | Valley Junction |
| Patterson, Kingsley | Grimes |
| Phillips, Orrin S. | Des Moines |
| Rapp, J. Cyril | Atlantic |
| Rarick, Harry | Des Moines |
| Rice, Ers | Centerville |
| Riley, Karl V. | Corydon |
| Shuey, William H. | Des Moines |
| Simons, Charles E. | Des Moines |
| Sleeper, George A. | Dow City |
| Thomas, Leslie F. | Cambridge |
| Thomas, Miles | Lovilia |
| Tillotson, Leroy | Des Moines |
| Webb, Charles W. | Des Moines |

SPECIAL STUDENTS

| | |
|-----------------------|------------------|
| Boatwright, Wilbur A. | El Paso, Texas |
| Bussing, Halsie G. | Des Moines |
| Byrnes, Robert | Des Moines |
| Chivers, John H. | Des Moines |
| Conradi, Adolph B. | Des Moines |
| Harris, Merion C. | Villisca |
| Shawhan, Olen B. | Des Moines |
| Stuart, Fred | Darlington, Wis. |

COLLEGE OF PHARMACY
SECOND YEAR

| | |
|---------------------|-----------------|
| Anderson, George J. | Waverly |
| Baldwin, George J. | Taunton, Minn. |
| Becker, Lyle E. | Granada, Minn. |
| Blomster, Oliver W. | Swea City |
| Bodeman, Russell B. | Wauneta, Neb. |
| Carlson, Theo W. | Des Moines |
| Christensen, Andrew | Wilmot, S. D. |
| Collins, Willmer A. | Ladysmith, Wis. |

| | |
|------------------------|---------------------|
| Conrad, Benjamin C. | Des Moines |
| Cook, Harry L. | Hope, N. D. |
| Deskin, Norris C. | Des Moines |
| Dixon, Walter M. | Arlington, Minn. |
| Eakle, Paul V. | Des Moines |
| Fischer, Wilbert A. | Burlington |
| Flemming, Emmet W. | Cresco |
| Friedman, David E. | Bellingham, Wash. |
| Frizol, Alphonse L. | Peru, Ill. |
| Herringlake, Pierre | Des Moines |
| Hickman, Floyd A. | Winthrop |
| Holcomb, John M. | Madrid |
| Hoye, Joseph L. | Waucoma |
| Johnson, Melvin S. | Stratford |
| McConkey, Ervin G. | Des Moines |
| Miller, Albert J. | Nora Springs |
| Harlan, Hester Mishler | London Mills, Ill. |
| Nelson, Russell V. | Des Moines |
| Paxton, Orval M. | Greenfield |
| Peterson, John T. | Venango, Neb. |
| Pinard, Kenneth L. | Wagner, S. D. |
| Quegg, William B. | Stratford |
| Rapp, Harry A. | Council Bluffs |
| Reiss, Letha L. | Stanton, Neb. |
| Sager, Allene M. | Kewanee, Ill. |
| Sampson, Milton E. | Des Moines |
| Scheibel, A. F. | New Ulm, Minn. |
| Schulze, Roland G. | Waverly |
| Seylar, John D. | Swea City |
| Steinmetz, Edward J. | Cresco |
| Steinmetz, William G. | Cresco |
| Thompson, Bowen C. | Breckenridge, Texas |
| Wood, Rollo G. | Mason City |

FIRST YEAR

| | |
|-----------------------|------------------|
| Barr, Russell R. | Lenox |
| Berry, Wilford G. | Moulton |
| Bocken, Frank E. | Harlan |
| Boecker, Ralph E. | Burlington |
| Borrusch, Virgil R. | Bedford |
| Bremmer, Gladys B. | Bedford |
| Bremmer, Opal L. | Bedford |
| Carrel, Mrs. Goldie | Des Moines |
| Carrel, Harry I. | Des Moines |
| Clifton, Keith M. | Sutherland |
| Debner, John | Waterloo |
| Debner, Paul | Waterloo |
| Deskin, James H. | Des Moines |
| Eichstaedt, Ralph | Lincoln, Neb. |
| Epstein, David | Lynn, Mass. |
| Ersland, Julius | Story City |
| Evans-Lombe, James H. | Edna, Kans. |
| Finch, Albert | Burlington |
| Fletcher, Nelson E. | Alliance, Neb. |
| Ford, John P. | Des Moines |
| Fosket, Samuel | Tarkio, Mo. |
| Funk, Arthur C. | Inman, Kans. |
| Gaynor, Gale | Bridgeport, Ill. |
| Gilbert, Everett | St. Joseph, Mo. |

| | |
|-----------------------|----------------------|
| Griffith, R. B. | Des Moines |
| Harlan, Byron D. | London Mills, Ill. |
| Harvey, Paul W. | Clinton |
| Holland, Richard L. | Kellerton |
| Holroyd, Paul R. | Waukee |
| Huffman, William E. | Des Moines |
| Hultberg, Frank O. | Burlington |
| Jackson, Lowell C. | Des Moines |
| Johnson, Leslie R. | New Sharon |
| Kierulff, Harvey E. | Osceola |
| King, Elmer J. | Ryan |
| Klink, Ernie | Elkport |
| Kosmalski, Michael | Taunton, Minn. |
| Levy, Victor S. | Pueblo, Colo. |
| Loupe, Cyril C. | Fort Pierre, S. D. |
| McFarland, Merion | Shenandoah |
| McGough, Joseph M. | Dubuque |
| Masdon, Cluster D. | Carruthersville, Mo. |
| Mason, Lloyd E. | Altoona |
| Moulton, Raymond F. | Morrison, Ill. |
| Mountjoy, Paul | Eureka, Ill. |
| Mungerson, Melvin I. | Boxholm |
| Nichols, Frank | Cherokee |
| Nisbet, Donald | Sioux Rapids |
| Oliphant, Fred L. | Des Moines |
| Pfiffner, Joseph L. | Dubuque |
| Porter, Claude E. | Atlantic |
| Riff, Chaim | Des Moines |
| Rime, Fred | Ottumwa |
| Rossi, John C. | Ottumwa |
| Rust, Lynne L. | Waverly |
| Samuelson, Vernon | Des Moines |
| Schekel, Raymond | Lake Andes, S. D. |
| Schillenbaum, Saul C. | Ryder, N. D. |
| Seeley, Vern N. | Rushville, Ill. |
| Slocum, John W., Jr. | Indianola |
| Smith, Joseph E. | El Paso, Texas |
| Snow, Rush D. | Oshkosh, Neb. |
| Spriggs, Gayland | Woonsocket, S. D. |
| Thomas, Leslie F. | Cambridge |
| Timmons, Belva C. | Ocheyedan |
| Ware, Max | Moulton |
| Wendell, Dwight | Story City |
| Wiedman, George | Parkston, S. D. |
| Wiewel, Ronald | Varina |

SPECIAL STUDENTS

| | |
|--------------------|-------------------|
| Edmunds, Lillian | Des Moines |
| Gray, Mabel M. | Granby, Mo. |
| Hanson, Edward C. | Fort Dodge |
| Peterson, Eldon V. | Gary, S. D. |
| Pherrin, Lyle W. | Whitelake, S. D. |
| Smith, Frank L. | Bloomington, Ill. |
| Woods, Merle L. | Des Moines |

SCHOOL OF FINE ARTS

JUNIORS

| | |
|--------------------|--------------|
| Enabnit, Rose | Des Moines |
| Hulse, Grace | Charles City |
| Richardson, Grace | Renwick |
| Wadsworth, Blanche | Goldfield |

SOPHOMORES

| | |
|------------------|------------|
| Boggs, Alice | Churdan |
| Hutchinson, Lois | Burlington |

FRESHMEN

| | |
|------------------------|------------|
| Carstensen, Marie | Newell |
| Christina, Emilie | Des Moines |
| Herndon, Sciota McAdow | Des Moines |

UNCLASSIFIED

| | |
|-------------------------|-------------------|
| Anderson, Elizabeth | Des Moines |
| Anderson, Wain | Des Moines |
| Armington, Donald | Des Moines |
| Bailey, Eleanor | Des Moines |
| Baridon, Madeline | Des Moines |
| Bear, Leone | Des Moines |
| Benham, Laura May | Des Moines |
| Beymer, Mary | Des Moines |
| Beymer, Rebecca | Des Moines |
| Black, Mrs. F. G. | Des Moines |
| Brewer, Marian | Des Moines |
| Brown, Marjorie | Des Moines |
| Bunker, Bernice | Des Moines |
| Carrithers, Boyd | Des Moines |
| Carryer, Marjorie | Des Moines |
| Chamberlain, Mrs. R. W. | Des Moines |
| Christiansen, Viggs | Des Moines |
| Culbertson, Frances | Des Moines |
| Cutler, Nellie | Des Moines |
| Cutler, Sarah | Des Moines |
| Cunningham, Marjorie | Des Moines |
| Dawson, Mrs. E. F. | Des Moines |
| Dewey, Helen | Des Moines |
| Duncan, Marie | Des Moines |
| Durnell, Margaret | Des Moines |
| Franklin, Lolan | Des Moines |
| Frye, Kathryn | Des Moines |
| Frye, Marion | Des Moines |
| Gordon, Robert | Des Moines |
| Graves, Phillip | Des Moines |
| Harris, M. C. | Des Moines |
| Heath, Margaret | Des Moines |
| Helin, Mary | State Center |
| Hill, Laurinee | Des Moines |
| Hlavka, Anna | Vermillion, S. D. |
| Hockett, Mayme | Des Moines |
| Horsley, Frances | Des Moines |
| Humphrey, Helen | Des Moines |
| Hyde, Minetta A. | Des Moines |
| Jesson, Dorothy | Des Moines |
| Kaufman, Pauline | Des Moines |

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|-----------------------|------------|
| Kennedy, Gordon | Des Moines |
| Kenyon, Annetta | Des Moines |
| Ketman, Florence | Des Moines |
| Knapp, Dorothy | Des Moines |
| Krarup, Elizabeth | Des Moines |
| Laughead, Charles | Des Moines |
| Laughead, Margaret | Des Moines |
| Lawson, Raymond | Des Moines |
| Laymon, Dorothy | Des Moines |
| Lewis, Dorothy | Des Moines |
| Longstaff, Arline | Des Moines |
| McCall, Doris | Des Moines |
| McClenahan, Genevieve | Des Moines |
| McDermott, Irene | Des Moines |
| McDonald, Margaret | Des Moines |
| McDougall, Eugene | Des Moines |
| McGregor, Bloom | Des Moines |
| McKee, Myrtle | Des Moines |
| McMillan, William | Des Moines |
| McPherson, Annie | Des Moines |
| Macy, Walter | Des Moines |
| Mauthe, Walter | Des Moines |
| Miller, Demar | Des Moines |
| Miller, Eva | Des Moines |
| Miller, Vera | Des Moines |
| Milligan, Ruby | Des Moines |
| Moore, Catherine | Des Moines |
| Moore, Donald | Des Moines |
| Moore, Jerome | Des Moines |
| Morgensen, Peter | Des Moines |
| Morris, Joan | Des Moines |
| Mulhaupt, Leone | Des Moines |
| Murray, Maxine | Des Moines |
| Nau, Muriel | Des Moines |
| Nelson, Bernice | Des Moines |
| Nissen, Florence | Elkhorn |
| Olgivie, Ralph | Des Moines |
| Olgivie, Ruby | Des Moines |
| Orriny, Dorothy Ellen | Des Moines |
| Page, James, Jr. | Des Moines |
| Palmer, Janet | Des Moines |
| Parker, Mary | Des Moines |
| Parlee, Byrdie | Des Moines |
| Pedelty, Avis | Mason City |
| Pritchard, Sarah | Des Moines |
| Renner, Mildred | Des Moines |
| Riddle, Caroline | Des Moines |
| Sampson, Dorothy | Des Moines |
| Scott, Mrs. G. L. | Des Moines |
| Shaeffer, Winters | Des Moines |
| Sharp, Mrs. G. F. | Des Moines |
| Sharp, James, Jr. | Des Moines |
| Sheriff, Alcena | Des Moines |
| Shill, Allie | Des Moines |
| Shill, Minnie | Des Moines |
| Shoemaker, Joseph | Des Moines |
| Silletto, Ruth | Des Moines |
| Skeeters, Paul | Des Moines |

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| Smith, Bessie | Des Moines |
| Spofford, Beulah | Des Moines |
| Standberry, La Rue | Des Moines |
| Stevenson, Rena | Des Moines |
| Tate, Laura | Des Moines |
| Tate, Margaret | Des Moines |
| Thompson, Dorothy | Des Moines |
| Thomson, Florence | Des Moines |
| True, Glennys | Des Moines |
| Upham, Frankie | Des Moines |
| Van Dam, Martin | Des Moines |
| Ward, Dorothy | Des Moines |
| Waters, Charlotte | Des Moines |
| Watson, Stewart | Atlanta, Ga. |
| Webb, Eloise | Des Moines |
| Weisler, Bernice | Des Moines |
| Wharton, Lucy | Des Moines |
| Wheeler, Mrs. Jessie | Des Moines |
| White, Ross E. | Des Moines |
| Wilkins, Gwendolyn | Des Moines |
| Williamson, Evelyn | Des Moines |
| Wray, Lucile | Des Moines |
| Wright, Janette | Des Moines |

UNIVERSITY INSTITUTE

PREPARATORY DEPARTMENT

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| Alcox, Roy S. | Des Moines |
| Ancheta, Joseph | Des Moines |
| Anderson, Agnes H. | Des Moines |
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| Bennington, Lloyd R. | Lake City |
| Carter, Fred L. | Kimball, Neb. |
| Case, Frank V. | Des Moines |
| Gibson, Joseph | Corning |
| Handelman, Mendel | Des Moines |
| Hansen, Arnold J. | Des Moines |
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| Hjerteen, Russell R. | Bloomfield |
| Jensen, Carl | Des Moines |
| Jipson, Raymond L. | Oelwein |
| King, Robert Healy | Des Moines |
| Lamoreaux, Yvonne | Des Moines |
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| Madsen, Jennie M. | Council Bluffs |
| Merson, Rholly J. | Luverne |
| Miller, Glen T. | Des Moines |
| Miller, J. Earl | Des Moines |
| Minsberg, Isaac | Des Moines |
| Neff, Allan M. | Des Moines |
| Nelson, Nels | Sioux City |
| Nemick, Louise | Pocahontas |
| Pettigrew, Edith | Des Moines |
| Ramsay, Herbert D. | Bedford |
| Ross, Randall T. | Webb |
| Sagamang, David | Des Moines |

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|-----------------------|---------------|
| Sanford, Charles K. | Des Moines |
| Scanlon, Anthony P. | Perry |
| Schaefer, Herbert L. | Des Moines |
| Schooler, Mary Lucile | Summerset |
| Schwartz, Irving | Chicago, Ill. |
| Seastrand, Carl E. | Des Moines |
| Sellers, McCord | Des Moines |
| Steinbring, Frank E. | Morris, Minn. |
| Thomas, Walter D. | Hampton |
| Thomson, Silas | Jewell |
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| Williams, Benjamin F. | Des Moines |
| Winslow, Frank J. | Des Moines |
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INDUSTRIAL DEPARTMENT

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| Booth, Dale | Carlisle |
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| Brown, Robert F. | Des Moines |
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| Calkins, James U. | Newton |
| Cameron, Glen F. | Des Moines |
| Carlisle, Eugene | Des Moines |
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| Cramer, Earl D. | Jefferson |
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| Culbertson, R. E. | Des Moines |
| Dawson, Clarence W. | Des Moines |
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| Flanagan, Martin | Marshalltown |
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| Forsythe, F. R. | Redfield |
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| Goins, Gladstone | Des Moines |
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| Harvey, Tiara R. | Ankeny |
| Haworth, James R. | Carlisle |
| Henderson, Syrus M. | Des Moines |
| Henneman, Chas. M. | Des Moines |
| Hesseltine, John E. | Des Moines |
| Huckleberry, Wayne M. | Carlisle |
| Jansen, Charles | Hazelton, Kan. |
| Jones, John L. | Fort Des Moines |

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| Koger, Charles W. | Decatur |
| Lakin, Glenn | Jewell |
| Lash, Russel B. | Des Moines |
| LeMar, Roy | Des Moines |
| Livingston, John J. | Des Moines |
| Long, Dwight T. | Washington |
| Luther, Roy E. | Mason City |
| McGuffy, George | Ottumwa |
| McKiddy, James | Des Moines |
| Marchael, Clarence | Des Moines |
| Martin, Frank G. | Union |
| Melick, David M. | Lacona |
| Mendenhall, Edward S. | Des Moines |
| Merrick, William A. | Hiteman |
| Miller, Roy | Redfield |
| Oliver, Harry F. | Des Moines |
| Orin, Frank J. | Des Moines |
| Peer, Charles A. | Des Moines |
| Perkins, Forest W. | Grand Junction |
| Pointer, George F. | Oskaloosa |
| Rainer, Herman. | Des Moines |
| Reagan, Forest W. | Moulton |
| Rhoades, Bert | Clarinda |
| Richards, Cecil T. | Clear Lake |
| Roberson, Carl T. | Webster City |
| Russell, Jay J. | Des Moines |
| Ryan, Rex | Prairie City |
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| Shanahan, Tom | Chariton |
| Shearer, Eugene | Des Moines |
| Smith, Thomas | Des Moines |
| Staples, Alfred F. | Brookfield, Mo. |
| Stapleton, James G. | New Virginia |
| Stranhan, Willard | Mount Ayr |
| Taylor, Thomas C. | Des Moines |
| Taylor, Lawton | Des Moines |
| Versteeg, Bryan W. | Oskaloosa |
| Vogel, John | Fort Dodge |
| Welshhons, William O. | Des Moines |
| Wilkinson, Alfred H. | Waukon |
| Wilson, Frank E. | Des Moines |

DANISH BAPTIST THEOLOGICAL SEMINARY

(AFFILIATED)

| | |
|---------------------|--------------------|
| Esperson, Andrew J. | Des Moines |
| Jensen, Einer | Des Moines |
| Jorgensen, Julius | Audubon |
| Neilsen, Emil | Graham, Texas |
| Olson, Edwin | Camp Douglas, Wis. |
| Petersen, Edward | Crawford, Neb. |
| Petersen, Harry | Crawford, Neb. |
| Rhode, Marius | Des Moines |
| Thornsen, Christian | Des Moines |
| Wittrup, Roy W. | Irwin |

SUMMARY OF ATTENDANCE

| COLLEGES OF LIBERAL ARTS AND OF EDUCATION | | | | |
|---|------------|------------|------------|-------------|
| | Men | Women | Total | |
| Seniors | 21 | 14 | 35 | |
| Juniors | 13 | 61 | 74 | |
| Sophomores | 35 | 69 | 104 | |
| Freshmen | 69 | 140 | 209 | |
| Special Students | 8 | 48 | 56 | |
| | <u>146</u> | <u>332</u> | <u>478</u> | 478 |
| COLLEGE OF ENGINEERING | | | | |
| Seniors | 2 | | 2 | |
| Juniors | 2 | | 2 | |
| Sophomores | 19 | | 19 | |
| Freshmen | 37 | | 37 | |
| Special Students | 8 | | 8 | |
| | <u>68</u> | | <u>68</u> | 68 |
| COLLEGE OF PHARMACY | | | | |
| Second Year..... | 39 | 2 | 41 | |
| First Year | 66 | 3 | 69 | |
| Special Students | 5 | 2 | 7 | |
| | <u>110</u> | <u>7</u> | <u>117</u> | 117 |
| SCHOOL OF FINE ARTS | | | | |
| College | 7 | 33 | 40 | |
| Unclassified | 34 | 93 | 127 | |
| | <u>41</u> | <u>126</u> | <u>167</u> | |
| Less duplications | 7 | 24 | 31 | |
| | <u>34</u> | <u>102</u> | <u>136</u> | 136 |
| UNIVERSITY INSTITUTE | | | | |
| Preparatory Department | 47 | 10 | 57 | |
| Industrial Department | 87 | | 87 | |
| | <u>134</u> | <u>10</u> | <u>144</u> | |
| Less duplications | 8 | 4 | 12 | |
| | <u>126</u> | <u>6</u> | <u>132</u> | 132 |
| Total for the Academic Year..... | 484 | 447 | 931 | 931 |
| Summer School, 1921..... | 155 | 251 | 406 | |
| Less duplications | 38 | 34 | 72 | |
| | <u>117</u> | <u>217</u> | <u>334</u> | 334 |
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COLLEGES AND SCHOOLS OF THE UNIVERSITY

THE COLLEGE OF LIBERAL ARTS

Standard four-year courses leading to the Bachelor of Arts and the Bachelor of Science degrees.

THE COLLEGE OF EDUCATION

Four-year courses leading to the Bachelor of Arts and the Bachelor of Science degrees and the first grade State certificate. Two-year courses leading to a University diploma and the third grade State certificate.

THE COLLEGE OF ENGINEERING

Four-year courses in Architectural Engineering, Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, with the corresponding University degrees.

THE COLLEGE OF PHARMACY

Courses leading to the degrees of Graduate in Pharmacy, Pharmaceutical Chemist, and Bachelor of Science in Pharmacy.

THE SCHOOL OF FINE ARTS

Conservatory of Music, granting the Bachelor of Music degree.
Department of Drawing and Painting.
Department of Dramatic Art.

THE UNIVERSITY INSTITUTE (Of sub-college grade)

Preparatory Department.
Industrial Department.
Commercial Courses.

THE UNIVERSITY EXTENSION DIVISION

Extending the campus to the limits of the State, with correspondence courses in college, vocational, and professional subjects.

APPLICATION FOR ROOM RESERVATION DES MOINES UNIVERSITY

Enclosed please find \$10.00 retaining fee for reservation of room

on..... floor in..... Hall;
this fee to apply on room rent at time of Registration.

Name

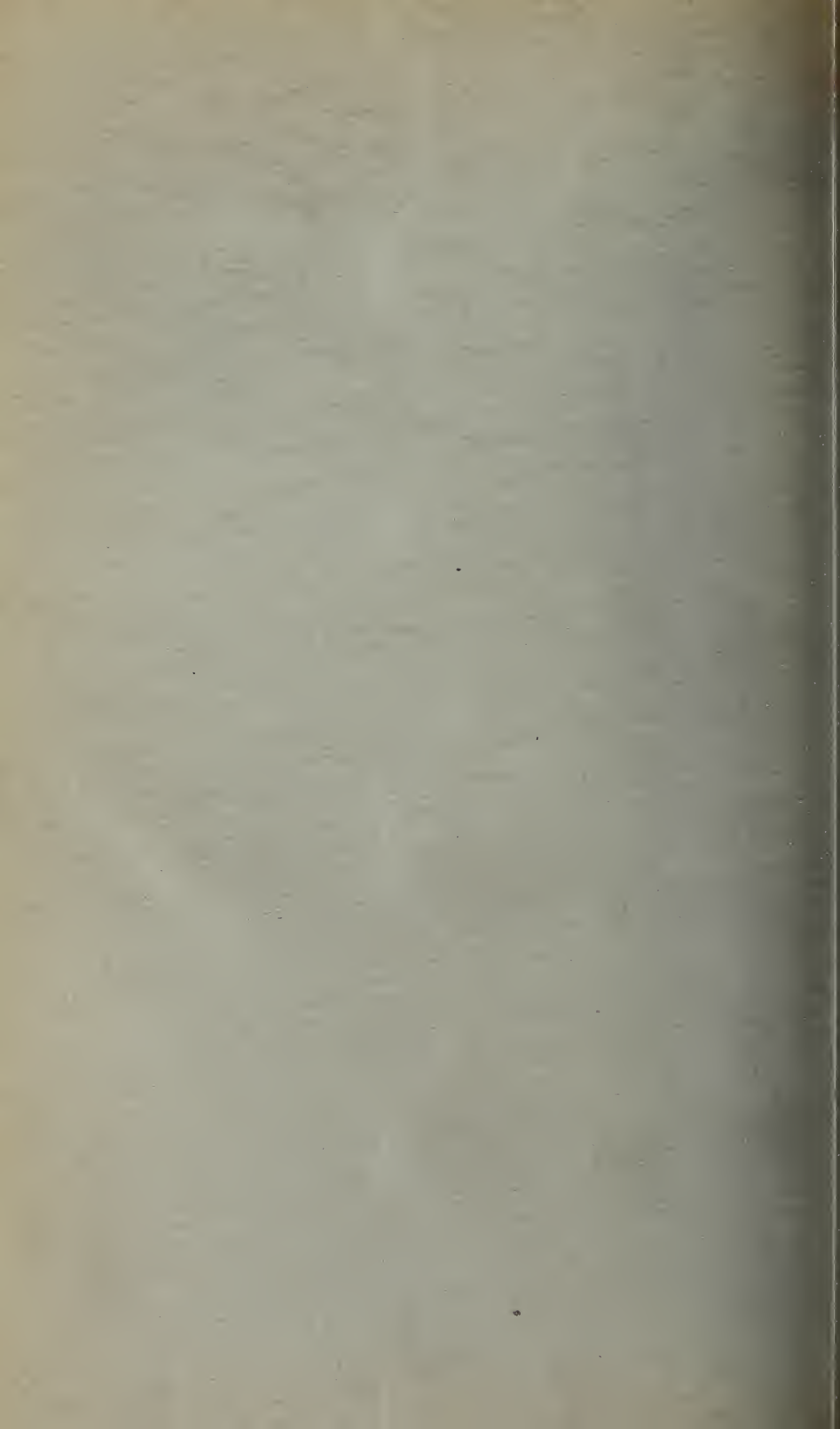
Street No. or R. F. D.....

City....., State.....

Date.....

See page 27 for rates, Eleanor Childs Hall for women and Johnson Hall for men. An early reservation will allow choice of rooms.





Des Moines University Bulletin

Entered as second class matter at the post office Des Moines, Iowa,
under the act of July 16, 1894. Published Monthly.

VOL. 21

FEBRUARY, 1923

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WITH ANNOUNCEMENTS FOR 1923-1924

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DES MOINES, IOWA

THE FRANKLIN CO. CHS.

CALENDAR FOR 1923

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CALENDAR FOR 1924

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CALENDAR 1923-1924

SUMMER SESSION 1923

(10 WEEKS, 6 DAYS A WEEK)

| | | |
|---------|-----------|---|
| June 11 | Monday | Summer Session begins; registration day. |
| June 12 | Tuesday | Classes begin, 7:45 a. m. ; opening Assembly, 9:35. |
| July 4 | Wednesday | Independence Day: a holiday. |
| July 14 | Saturday | First term Summer Session ends. |
| July 16 | Monday | Second term Summer Session begins. |
| Aug. 18 | Saturday | Summer Session ends, 5:00 p. m. |

FIRST SEMESTER

| | | |
|----------|-----------|--|
| Sept. 10 | Monday | Entrance examinations. Registration of Des Moines students. First semester begins. |
| Sept. 11 | Tuesday | } Registration of out of town students. |
| Sept. 12 | Wednesday | |
| Sept. 13 | Thursday | Classes begin, 7:45 a. m. ; opening Assembly, 9:35. |
| Nov. 29 | Thursday | Thanksgiving Day: a holiday. |
| Nov. 30 | Friday | A holiday, following Thanksgiving Day. |
| Dec. 19 | Wednesday | Holiday recess begins, 5:00 p. m. |
| Jan. 2 | Wednesday | Classes resume, 7:45 a. m. |
| Jan. 17 | Thursday | } Registration for second semester. |
| Jan. 18 | Friday | |
| Jan. 24 | Thursday | } Examinations, first semester. |
| Jan. 25 | Friday | |
| Jan. 25 | Friday | First semester ends, 5:00 p. m. |

SECOND SEMESTER

| | | |
|---------|-------------|---|
| Jan. 28 | Monday | Second semester begins; registration of new students. |
| Jan. 29 | Tuesday | Classes begin, 7:45 a. m. ; opening Assembly, 9:35. |
| Feb. 22 | Friday | Washington's Birthday Banquet. |
| Mar. 26 | Wednesday | Easter recess begins, 5:00 p. m. |
| April 1 | Tuesday | Classes resume, 7:45 a. m. |
| June 2 | Monday | } Examinations, second semester. |
| June 3 | Tuesday | |
| May 29 | Thursday to | } Commencement. |
| June 4 | Wednesday | |
| June 4 | Wednesday | Second semester ends. |

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PRELIMINARY

HISTORICAL SKETCH

Des Moines University is a union of Des Moines College and the Baptist interests of Central University of Iowa, together with Burlington Collegiate Institute and Sac City Institute, located on the campus of Highland Park College. It represents, therefore, many converging educational streams.

Burlington Collegiate Institute was incorporated as Burlington University, at Burlington, by Baptists of Iowa in 1852. The school discontinued its work in 1901 and its net assets were transferred to the American Baptist Education Society for the benefit of Des Moines College. Central College was established at Pella in 1853 by Baptists of Iowa, under the name, Central University of Iowa. Des Moines College, incorporated as the University of Des Moines, was founded in 1865, also by Baptists of Iowa. Sac City Institute, located at Sac City, Iowa, was organized as an Academy under Baptist auspices in 1894. In 1914 the school was closed and its net assets were turned over to Des Moines College. Highland Park College, located in a suburb of Des Moines, was established under a private Board of Trustees in 1889, and was conducted as a College of Liberal Arts and a school of technical and vocational training. In 1911 it was transferred to a Board of Trustees representing the Presbyterian denomination, and remained under their control until purchased by the Baptists in 1918.

After many attempts at the co-ordination of their educational activities, the Baptists of Iowa, in 1916, consolidated Des Moines College and the Baptist interests of Central University in a new institution which should have a new name, a new charter, and a new campus either in Des Moines or elsewhere; and a holding corporation was formed, known legally as Union College of Iowa, to which were turned over the transferable assets of both schools. It was agreed that Des Moines College should continue the college educational work of the denomination until \$500,000 had been raised, when the new enterprise would be launched. This condition having been fulfilled, and the necessary legal adjustments having been made at the annual meeting of the Board of Trustees in June, 1920, the educational work of Des Moines College was transferred to the new institution in December of that year.

Meanwhile, a new campus of about twenty-five acres and good buildings had been secured by the purchase of Highland Park College, on March 13, 1918. A week later, Des Moines College, faculty, students, office force, employees, and equipment were transferred from the old campus on Ninth Street, in North Des Moines, to the new campus in Highland Park, which is now the permanent location of the school.

When the name, Union College of Iowa, was adopted, it was expected that this designation would be temporary; and on December 14, 1920, the Board of Trustees unanimously adopted the name Des Moines University for the consolidated institution and amended the Articles of Incorporation to that effect, this name having been unanimously approved by the Iowa Baptist State Convention at Keokuk, in October, 1920. Des Moines University is now the only Baptist institution of learning in the State of Iowa. It has also been approved by the national denominational

organization, the Northern Baptist Convention, which has allotted to the institution \$1,785,000.00 out of the hundred million dollar campaign now being carried on by the Baptists of the North.

No denominational or religious tests, however, are required for admission to the University, but all young people of good, moral character who have the necessary educational preparation and who are in sympathy with its purposes, are entitled to its advantages without regard to church affiliations.

OBJECTIVE

As appears from the foregoing sketch, Des Moines University is a union of Colleges of Liberal Arts, inheriting also pronounced technical and vocational interests. The aim of the new institution will be to preserve genuine cultural education, while at the same time giving due emphasis to the practical needs of young people preparing for their life work. This will be done, however, as higher education, with due regard to approved educational standards, and not as vocational training alone. In other words, circumstances have forced Des Moines University somewhat suddenly into that reorganization of curriculum which most Colleges of Liberal Arts are undertaking in a more deliberate way, in the direction of a more vital relationship with the interests of life. The location of the University in the city of Des Moines affords an unsurpassed opportunity for this readjustment and for emphasizing the training of teachers, social science and social service, the business and industrial aspects of economics, applied courses in natural sciences, and technical courses in engineering and other subjects.

In undertaking this work, Des Moines University is animated by the very definite objective of training Christian citizens and leaders, using the word "citizens" in the broad sense of men and women who are to fulfill their relations and obligations in civic, social and industrial life. The University makes no apology for this Christian emphasis, and, indeed, holds that such emphasis is the chief justification for church-supported schools. The problems of our modern life demand the intelligent comprehension and vigorous leadership of men and women who understand the Christian spirit and are dominated by it. In its educational purposes and plans, therefore, Des Moines University seeks to avail itself of genuine cultural, scientific and technical education, on the one hand, and of the vital forces of the Christian religion, on the other hand, thus combining these two great agencies in the development of a well-rounded education for young men and women.

ORGANIZATION

Des Moines University wishes to emphasize the fact that it has not adopted the title, University, in the sense of a graduate and research institution, which it does not at the present time pretend to be, but rather in the sense of a corporate collection of Colleges and Schools, which seems also to be a legitimate and authorized use of the term. The University is organized into the Colleges and Schools listed below, each presided over by a Dean or Director. The President of the University has charge of general administration, the public constituency, and the financial support of the institution. The internal and educational administration has been vested in the Chancellor. The Business Manager has general charge of the business affairs of the University, including the buildings and grounds.

COLLEGES AND SCHOOLS

- THE COLLEGE OF LIBERAL ARTS
 THE COLLEGE OF EDUCATION
 THE COLLEGE OF ENGINEERING
 THE COLLEGE OF PHARMACY
 THE SCHOOL OF FINE ARTS
 Conservatory of Music
 Department of Dramatic Art
 Department of Drawing and Painting
-
- THE UNIVERSITY INSTITUTE
 THE EXTENSION DIVISION
 DANISH BAPTIST THEOLOGICAL SEMINARY (Affiliated)

HISTORICAL CALENDAR

- 1852 Articles of Incorporation adopted for Burlington University, Burlington, Iowa.
 1853 Central University of Iowa incorporated and located at Pella, Iowa.
 1865 The University of Des Moines incorporated and located in Des Moines, Iowa.
 1889 Highland Park College incorporated and located in Des Moines,
 1889 Highland Park College incorporated and located in Des Moines.
 1889 Name "University of Des Moines" changed to "Des Moines College" by filing new articles of incorporation.
 1894 Articles of Incorporation adopted for Sac City Institute, Sac City.
 1901 Burlington University, now called "Burlington Collegiate Institute," merged in Des Moines College.
 1914 Sac City Institute merged in Des Moines College.
 1915 Committee of sixteen, consisting of seven trustees of Central University and seven trustees of Des Moines College and two officers of the Board of Education of the Northern Baptist Convention, organized to work out plans for the unifying of Central University and Des Moines College in one new college.
 1916 Central University of Iowa, on advice of the officers of the Board of Education of the Northern Baptist Convention, transferred to the Reformed Church in America.
 1916 \$200,000 pledged to new college by Des Moines commercial organizations.
 1916 Iowa Baptist Convention, on recommendation of the committee of sixteen, voted to establish one new college with a new name, a new charter, and a new campus, in which the college interests of the Baptists of Iowa would be united.
 1916 Union College of Iowa organized as a holding corporation for the property interests of Des Moines College and such funds and pledges as were transferred from Central University of Iowa through the Board of Education of the Northern Baptist Convention.
 1916 Des Moines College by vote of the Iowa Baptist Convention was continued to carry on the college work until half a million dollars should be secured in cash and pledges for the new college.
 1916 Des Moines College buildings and grounds sold on contract, the same to be delivered to purchaser June 15, 1918.
 1918 Highland Park College purchased.
 1918 Des Moines College moved to Highland Park campus.
 1918 Iowa Baptist Convention voted to ratify the action of the Board

- of Trustees of the new college making Highland Park campus the permanent location of the institution.
- 1919 New College placed in budget of Baptist New World Movement for \$1,785,000.
- 1919 Baptists of Iowa complete pledges of \$400,000 to new college.
- 1920 Des Moines College, according to terms of agreement with Central College, gave up its name and work as an educational institution.
- 1920 "Des Moines University" chosen as the name of the new institution and ratified unanimously by the Iowa Baptist Convention in annual meeting at Keokuk, Iowa. By amendment of the articles of incorporation, Union College of Iowa was changed to Des Moines University.

CHRONOLOGY OF CENTRAL UNIVERSITY OF IOWA

- 1853 Resolution adopted by a state convention of Iowa Baptists to locate a college at Pella, Iowa.
- 1854 Opening of academic department under principalship of Dr. E. H. Scharff.
- 1856 Central Hall opened for use.
- 1857 Rev. Elihu Gunn, A. M., D. D., first president.
- 1861 One hundred twenty-three professors and students enlisted in the army.
- 1871 Rev. L. A. Dunn, D. D., president.
- 1881 Rev. George W. Gardner, D. D., president.
- 1885 Rev. Daniel Reed, LL. D., president.
- 1886 Rev. L. A. Dunn, D. D., recalled to the presidency.
- 1888 Death of President Dunn and election of President S. J. Axtell.
- 1891 Rev. John Stuart, Ph. D., president.
- 1895 Rev. A. B. Chaffee, D. D., president.
- 1900 Rev. L. A. Garrison, D. D., president.
- 1901 Erection of Y. M. and Y. W. C. A. Building.
- 1905 Erection of Dunn Cottage as President's residence.
- 1909 President Garrison resigned.
- 1911 John L. Beyl, Ph. D., president.
- 1914 John W. Bailey, Ph. D., president.
- 1916 The college after sixty-three years of work under the auspices of the Baptists was transferred to the control of the Reformed Church in America.

CHRONOLOGY OF DES MOINES COLLEGE

- 1865 The University of Des Moines incorporated and located on Pleasant and Sixteenth Streets, Des Moines, Iowa.
- 1865 Rev. J. A. Nash, D. D., chosen first president of the institution.
- 1870 Col. Alonzo Abernethy elected president.
- 1872 Rev. J. A. Nash, D. D., recalled as president.
- 1875 Judge Frederick Mott elected president.
- 1881 D. F. Call elected president.
- 1883 Dr. Ira E. Kenney became president, and under his leadership the old campus on Pleasant Street was abandoned for the new site on Ninth Street and College Avenue.
- 1884 Erection of first building on new site, later known as Burlington Hall.
- 1887 Dedication of Nash Hall, named for J. A. Nash, D. D.
- 1887 James P. Stephenson, Ph. D., chosen as acting president.
- 1889 Rev. H. L. Stetson, LL. D., elected president.

- 1891 Successful completion of the campaign to raise an endowment of \$100,000.
- 1891 Joseph V. Hinchman, Glenwood, Iowa, pledges \$25,000 to endowment.
- 1891 American Baptist Education Society pledges \$12,500 to endowment.
- 1891 William Aitchison, Jr., elected treasurer.
- 1892 Affiliated with the University of Chicago.
- 1900 American Baptist Education Society pledges \$25,000 for debts and endowment.
- 1900 President Stetson resigns.
- 1901 Rev. George D. Adams, D. D., elected president.
- 1903 President Adams resigns and Rev. J. K. Richardson is elected as acting president.
- 1905 Loran D. Osborn, Ph. D., elected president.
- 1909 New Nash Hall dedicated.
- 1911 President Osborn resigns.
- 1911 Rev. John A. Earl, D. D., elected president.
- 1912 Mrs. Eleanor Childs, Waterloo, Iowa, pledges \$50,000 on an annuity basis for a memorial dormitory for women.
- 1913 Childs Hall dedicated.
- 1913 School of Education established.
- 1914 Chautauqua Park purchased.
- 1918 Des Moines College Campus transferred to Bishop Dowling.
- 1918 Des Moines College faculty, students, and equipment moved to the campus of Highland Park College.
- 1920 Des Moines College merged in Des Moines University, thus closing fifty-five years of educational work.

CHRONOLOGY OF DES MOINES UNIVERSITY

- 1916 Union College of Iowa incorporated with a board of twenty-four trustees.
- 1917 Mr. James R. Vaughan elected campaign director.
- 1917 Rev. John W. Bailey, Ph. D., elected to assist in securing \$500,000 for the new college.
- 1918 Mr. James R. Vaughan begins work as business manager and treasurer.
- 1918 New dormitory for women reorganized at a cost of \$25,000.00 and called "Eleanor Childs Hall."
- 1919 Campaign for \$500,000.00 merged in New World Movement.
- 1919 Board of Education of Northern Baptist Convention apportions \$1,000,000 for endowment and \$785,000 for equipment from the proposed \$100,000,000 campaign in the New World Movement.
- 1920 Albert B. and Mary J. Johnson donate farm of 240 acres in Madison County, Iowa, on an annuity basis.
- 1920 Humboldt Hall remodeled at a cost of \$12,500 and renamed "Johnson Hall" in honor of Albert B. and Mary J. Johnson.
- 1920 John A. Earl, D. D., having closed his work as president of Des Moines College with the merging of Des Moines College in the new college, is elected president.
- 1920 Union College of Iowa changed to Des Moines University.
- 1920 President Earl resigns to take effect June 1, 1921.
- 1920 Office of Chancellor created, charged with Internal and Educational Administration.
- 1920 Loran D. Osborn, Ph. D., elected chancellor.
- 1921 John W. Million, A. M., elected president.
- 1921 Des Moines University Alumni Association organized.

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3407 Fifth Street

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LORAN D. OSBORN, Ph. D.

Chancellor

Acting Dean of the College of Liberal Arts

Professor of Sociology

829 Oak Park Avenue

A. B., Michigan; Ph. D., Chicago; Des Moines College, '05-'11;
Des Moines University, '20

JAMES P. STEPHENSON, Ph. D., LL. D.

Professor of Philosophy

Consulting Registrar

1331 Harrison Avenue

A. B., A. M., Oberlin; Ph. D., Syracuse; LL. D., Des Moines;
Des Moines College, '87

FLORENCE T. STEPHENSON, A. M.

Professor of English Literature

1331 Harrison Avenue

A. B., A. M., Oberlin; Des Moines College, '87

FLORA E. HARRIS, A. M.

Professor of Greek and Latin

Eleanor Childs Hall

A. B., Central; A. B., Chicago; A. M., Central; Des Moines College, '96

S. P. FOGDALL, Ph. D.

Professor of History and Political Science

3305 Fifth Street

Ph. B., Des Moines; A. M., Chicago; Ph. D., Iowa; Des Moines
College, '12

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1610 E. Eighth Street

A. B., Beloit; M. S., Wisconsin; Des Moines University, '20

ELBERT O. KAGY, Ph. G., Ph. C.

Dean of the College of Pharmacy

Professor of Pharmacy

4139 Sixth Avenue

Ph. G., Ph. C., Highland Park; Highland Park, '08

CHARLES E. GERMANE, Ph. D.

Dean of the College of Education

Professor of Education and Psychology

712 Oak Park Avenue

A. B., Indiana; A. M., Ph. D., Iowa; Des Moines University, '20

*SONNICH C. SONNICHSEN, A. B.

Professor of Economics

847 Oak Park Avenue

A. B., California; Divinity School Diploma, Chicago;
Des Moines University, '20

EARL D. HAY, M. S., M. E.

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Professor of Mechanical Engineering

3416 Oxford Avenue

B. S., M. S., M. E., Rose Polytechnic; Des Moines University, '20

CHARLES J. ROBINSON, Ph. D.

Professor of Chemistry

901 Clinton Avenue

B. S., Illinois Wesleyan; Ph. D., Johns Hopkins; Des Moines
University, '20

HOWLAND HANSON, A. B.

Professor of Biblical Literature

Director of Religious Life

700 Prospect Boulevard

A. B., Princeton; three years graduate work, Chicago; Des Moines
University, '21

ROSCOE E. PARKER, A. M.

Professor of English and Public Speaking

3718 Second Street

A. B., A. M., North Carolina; Des Moines University, '21

EDWARD C. BLOM, A. M.

Professor of Mathematics and Physics

3722 Fourth Street

A. B., Southwestern Missouri Normal; B. S., A. M., Missouri;
Des Moines University, '21

GEORGE WILCOX, C. E.

Professor of Civil Engineering

3615 Columbia

C. E., Princeton; 18 years' engineering experience; Des Moines
University, '21

J. EARLE GALLOWAY, Ph. G., Ph. C.

Professor of Materia Medica

3915 Kingman Boulevard

Ph. G., Ph. C., Highland Park; Highland Park, '13

**MARGUERITE E. GAUGER, M. S.

Professor of Home Economics

Eleanor Childs Hall

B. S., M. S., Illinois; graduate work, Columbia; Des Moines University, '20

RAYMOND N. CARR, A. B.

†*Dean of the School of Fine Arts*

3800 Fourth Street

A. B., Shurtleff; graduate Northwestern University School of Music;
Des Moines University, '21

*Resigned, February 1, 1923.

**On leave of absence for graduate study 1922-1923.

†For Faculty of the School of Fine Arts, see page 101.

ZENAS C. THORNBURG, A. B., LL. D.

Director of the University Institute

1804 E. Twelfth Street

A. B., LL. D., Highland Park; graduate work, Columbia; Des Moines University, '21

RUTH V. POPE, A. M.

Dean of Women

Assistant Professor of English

Eleanor Childs Hall

A. B., A. M., George Washington; Des Moines University, '21

MARY F. BOYD, A. B.

Assistant Professor of Romance Languages

2507 Clark Street

A. B., Drake; graduate work, Columbia and Paris; Des Moines College, '18

CARL T. ALMQUIST, B. S. in E. E.

Assistant Professor of Electrical Engineering

1457 Guthrie Avenue

B. S. in E. E., Iowa State; Des Moines University, '20

JULIA MAE WARD, A. M.

Assistant Professor of Education

Supervisor of Intermediate Education

Eleanor Childs Hall

B. S., Missouri; A. M., Teachers' College, Columbia; Des Moines University, '22

PALMINE ARENT, A. M.

Assistant Professor of Education

Supervisor of Primary Education

706 Euclid Avenue

A. B., Iowa State Teachers' College; A. M., Teachers' College, Columbia; Des Moines University, '22

HAROLD P. CHAFFEE, A. M.

Assistant Professor of Economics and Business Administration

A. B., Denison; A. M., Iowa; Des Moines University, '23

AMANDA M. ELLIS, A. M.

Assistant Professor of English

Eleanor Childs Hall

A. B., Colorado College; A. M., Iowa; Des Moines University, '22

HARRY M. BELL, B. S.

Instructor in Physical Education

Athletic Coach

Johnson Hall

B. S., Drake; Des Moines University, '20

EUGENE F. DAWSON, B. M. E.

Instructor in Engineering Drawing and Design

B. M. E., Ohio State; Des Moines University, '21

RALPH W. PRYOR, A. M.

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805 Clinton Avenue

A. B., Central; M. S., Missouri; Des Moines University, '21

BURGOYNE GRIFFING, A. M.

Instructor in Mathematics and Physics

3831 Fourth Street

A. B., Washburn; A. M., Kansas; Des Moines University, '22

IRENE FOLCKEMER, A. B.

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Eleanor Childs Hall

A. B., Wisconsin; graduate work, Paris; Des Moines University, '22

CHARLOTTE R. SMITH, A. B.

Instructor in Home Economics

917 Locust Street

A. B., Washington State College; graduate work, Washington State College; Des Moines University, '21

JAMES F. PAGE, A. M.

Secretary of the University Extension Division

Instructor in History

605 Ovid Avenue

A. B., A. M., Highland Park; Highland Park, '10

JESSE S. HERRIOTT

Director of Physical Training for Women

Eleanor Childs Hall

Graduate, New Haven Normal School of Gymnastics; Special Courses, Columbia University, and Chicago Normal School of Physical Education; Des Moines University, '22

HARDY W. LARSON, B. S.

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B. S., Drake; Des Moines University, '21

AVA L. JOHNSON, B. S.

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A. B., Ohio Wesleyan; Des Moines University, '22

EVA M. PAGE

Librarian

820 Euclid Avenue

Des Moines University, '21

LAURA TATE

Assistant Librarian

Eleanor Childs Hall

Des Moines University, '21

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| REUBEN A. WESTER, A. M..... | <i>Principles of Accounting</i> |
| HORACE S. HOLLINGSWORTH, Ph. B..... | <i>Poverty and Pauperism</i> |
| NORTHUP A. WINTER, A. B..... | <i>Psychology of Selling</i> |

For Faculty of the Danish Baptist Theological Seminary, see page 117.

GENERAL INFORMATION

LOCATION

The ideal location for a University combines quiet for study with easy access to the interests and activities of real life. This ideal is fully realized in the location of Des Moines University at Highland Park, a fine residence suburb of the capital and metropolis of the State, three miles north of the business center of the city. Des Moines has a population of 140,000 and is an important center of governmental, religious, educational, commercial, and industrial affairs. The principles and machinery of government may be studied at first hand in the laboratory of state and municipal administration; the business and industrial activities of modern life are available for the student's investigation; the churches, art galleries, state and city libraries, state historical collection, lectures, addresses, musical entertainments, all contribute to the value of University life at Des Moines. Des Moines is located near the center of the State, and is easily accessible from all directions, thus making possible a statewide educational service at a minimum of traveling expense to the student.

CAMPUS

The campus of Des Moines University is situated on one of the two highest elevations of the city, the State House standing upon the other. It is within walking distance of Union Park, McHenry Park, and the Des Moines River, and is connected with the business district by ample street car accommodations. The campus itself consists of about twenty-five acres of ground, the spaces not occupied by buildings being covered with beautiful lawn and shapely trees. Rows of over-arching hard maples lining the walk leading to the administration building greatly add to the beauty of the spacious front quadrangle.

BUILDINGS

The nine buildings of Des Moines University are commodious and substantially built and, with little expense, will harmonize with the Gothic style of architecture which has been adopted by the Board of Trustees for the greater Des Moines University.

The Administration Building contains the general offices, the chapel, most of the class rooms of the College of Liberal Arts, the biological laboratory, the drawing and painting studio, the Extension Division, and the literary society hall. The dining hall is in the basement. The Chapel is well ventilated, seated with opera chairs, equipped with moving picture machine, and has a large stage suitable for concerts and plays. It seats about a thousand people.

Science Hall, at the southeast corner of the campus, is a substantial building, five stories high, and provides accommodations for the School of Fine Arts, on the first floor; and, on the other floors, the Commercial School, the library, the science class rooms, and the physics, chemistry, and pharmacy laboratories.

The Engineering Shops are convenient and well equipped. They consist of a power plant, foundry, forge room, machine shops, manual training and pattern making equipment, automobile and electrical laboratories, a garage, and the laboratory of the State Highway Commission.

Eleanor Childs Hall, a dormitory for women, the gift of Mrs. Eleanor Dix Childs, of Waterloo, is a beautiful building of modern reinforced concrete construction and fully fireproof. It is four stories high, with three-quarter basement. Roomy and attractive parlors for the dormitory household occupy the north end of the building on the first floor, and there are smaller parlors on each of the other floors. Each living room, with accommodations for two, is furnished with two single beds, study table, dresser, chairs, window shades, rugs and a large wardrobe, and is equipped with water, steam heat, and electric light. The class rooms and laboratories of the Home Economics Department are in the basement of this building.

Johnson Hall is a dormitory for men. Its reorganization was made possible by the generous gift of Mr. and Mrs. A. B. Johnson, of Truro. It is a large four-story brick building, with rooms for a hundred students. It accommodates two students in each room, with two single beds and other necessary articles of furniture. A parlor and club rooms provide facilities for the social life of the men.

The Gymnasium, situated on the southeast corner of the campus, has floor space one hundred feet long by forty feet wide, and has seats to accommodate several hundred people.

Three large cottages adjoin the campus on the north, and are used as fraternity houses.

The power plant is centrally located and equipped with three 150 horse power boilers and a large electric dynamo which generates electricity for the entire campus. All the buildings are heated with steam from this central plant.

LABORATORIES

The laboratories for work in Physics, Biology, Chemistry, and Pharmacy are equipped with the necessary apparatus for modern scientific study, so that students especially interested in the natural sciences may have adequate opportunities along that line in connection with their college course.

LIBRARY

The library, located on the third floor of Science Hall, contains about twenty thousand volumes, in addition to departmental libraries and special collections. The books have been chosen with special reference to the lines of study offered by the University and contain good working collections in History, Social Science, Literature, Domestic Science and Art, Natural Science, Engineering, and Agriculture. Current periodicals and newspapers are regularly received, and the serial publications of Universities, Societies, State and Federal Governments are on file for the use of students.

The University recognizes that experience in the use of books and periodicals is an essential part of college training, and, in the various courses, the student is constantly referred to books which are recommended or required to be read. The librarian and competent assistants render students every aid in the use of library material. Lectures on the use of the library are given to members of the Freshman class early in the year. Other lectures are given from time to time to various groups on the literature of special subjects.

The University is indebted to many persons and institutions for valuable gifts of books and money, including the private library of the late O. H. Longwell, for twenty-three years president of Highland Park College, and of Judge L. B. Hibbard, former curator of Des Moines College library.

PUBLICATIONS

The official publication for which the University authorities are directly responsible is the Des Moines University Bulletin, which is published monthly and contains such official announcements and information as are of interest to the large constituency of the University.

The Highlander is a weekly newspaper edited and published by representatives of the Students' Association and reports the current college news of special interest to the student body.

Each year the students publish a University Annual called The Tiger, devoted to the facts and fancies of University life.

RELIGIOUS LIFE

The experiences of the past have demonstrated beyond question that only when intellectual and religious culture complement and reinforce each other is the highest development attained. It is the aim of the University to create and maintain a wholesome Christian atmosphere. To this end a regular college department of Biblical Literature and Religious Life has been established, with a capable instructor and director in charge.

Attendance at Chapel is required of all college students twice a week, and the service aims to minister directly to the strengthening of religious and educational life.

A students' prayer meeting is held each week. This is well attended and for years has been a source of great inspiration and power in the school.

The following student organizations are influential factors in the religious life of the University, and their work is fostered and encouraged:

- The Young Men's Christian Association
- The Young Women's Christian Association
- The Student Volunteer Band
- The Ministerial Association
- Gospel Teams and Deputation Groups.

It is expected that students will attend the church of their choice on Sunday mornings. This should be a privilege as well as a duty. Students will find a cordial welcome at any of these places of worship.

The University Baptist Church has been organized, and students are invited with the utmost cordiality to unite in its services of song and worship. The Bible School of the Church, the Young People's Department, the Life Service League, and other phases of activity offer excellent opportunities for religious growth and service. Rev. J. Orrin Gould is pastor of the church.

The University Vesper Service is held on Sunday afternoons, with inspiring sermons and a large chorus of students.

STUDENT ORGANIZATIONS

The Literary Societies maintain a high grade of literary work in essay writing, debating, public speaking, and impromptu address. Members develop a facility in parliamentary procedure and committee organization. Membership is open to all University students.

The Engineering Society is the technical organization of the Univer-

sity. Prominent engineers frequently give practical lectures and papers before this body. Many special departmental activities are carried on through the society.

The Knickerbocker Klub is a dramatic organization of the University, closely articulated with the Departments of English and Public Speaking. Membership is determined by competitive examinations. The Doublet and Hose is the advanced dramatic club. Its members are elected from the Knickerbocker Klub. Only those who have excelled in some branch of theatrical art are admitted.

The French Club is organized for practice in speaking French. Regular meetings are held, consisting of a literary program and parliamentary practice, all of which is in French. Membership is open to all students in the French department and to members of the faculty.

The University Men's Club is an organization of men of the University for sociability and fellowship. The club rooms are in the basement of Johnson Hall.

To those musically inclined some of the most delightful events in University life are to be found in the activities of the musical organizations. There are glee clubs for women's voices and for men's voices. A University band and a University orchestra are maintained under the leadership of competent directors. Students interested in band and orchestra music are advised to bring their instruments.

For purposes of self government and the unifying of the various student enterprises and activities, the students of Des Moines University are organized as a Students' Association. The membership includes the entire student body. The Association assumes organized responsibility in the life and conduct of its members, and aims to promote a feeling of unity, loyalty and fellowship among the students of the University, to make and maintain worthy social ideals and standards, and to regulate matters affecting the interests of the student body that do not fall under the immediate jurisdiction of the faculty or trustees. The Students' Association elects an executive body, known as the Student Council, representing the several departments of the University; and Governing Boards, composed jointly of students and faculty members, are appointed to direct the various student activities. A special student fee of \$7.50 per semester is paid by each student to meet the cost of their activities.

THE CHORUS

The University Chorus is open to students and other friends of the University. Work consists principally of the study and rendition of the masterpieces of choral music, including oratorio and other forms, both sacred and secular. Standard operas are given in full stage form. The opportunity is offered students who are sufficiently advanced to do quartet and semi-chorus work.

THE CHOIR

The University Choir is organized and conducted in close affiliation with the Chorus. The Choir sings each Sunday at the University services. Only the best church music is studied and rendered by this body.

THE ORCHESTRA AND THE BAND

The University Orchestra affords students and townspeople opportunity to study and perform the standard overtures, the lighter symphonies, and other forms of concert music.

The Band makes frequent appearances at games, "pep" meetings, concerts, and other appropriate occasions. Attractive uniforms, designed

in the University colors, are worn by the members at all important appearances.

ATHLETICS

Believing that the development of the body is an important factor in education, the University requires physical training of all college students during the Freshman and Sophomore years. Classes are arranged for both men and women, and competent instructors and coaches are provided. Students who prefer to engage in athletics and sports, and who are qualified to do so, may count these as required physical training for the semesters in which they participate, and receive physical training credit therefor.

Athletics, including intercollegiate athletics and conference relations, are under faculty control, and are conducted in the interests of education, wholesome sport, and good sportsmanship. Such regulations are made by the faculty as, in its judgment, are necessary to this end.

The athletic field is a five-acre tract of ground near the campus. It has cinder track with a quarter-mile course, and contains baseball diamond, football gridiron, and facilities for track sports. Seats for the accommodation of spectators occupy the west side of the field. Tennis courts are located on the University campus.

DEBATING AND PUBLIC SPEAKING

Debating and public speaking are encouraged as an essential part of a liberal education. In these days, practically every educated man and woman is called upon to assume leadership that requires the presentation of public matters to larger or smaller groups of people. Practice in public speaking and in thinking while upon one's feet should therefore be acquired. The University provides adequate instruction to this end, and debating teams and public speaking activities are organized for intramural practice and to contest for forensic honors with other colleges.

FACILITIES FOR SELF-HELP

Des Moines, owing to its size and the variety of its activities, offers exceptional opportunities for self help both to young men and young women. It is estimated that seventy-five per cent of the students of Des Moines University have earned all or part of their expenses in recent years. The University is prepared to assist students in finding remunerative employment. The amount which a student may earn in the University depends however, entirely upon his or her own initiative and ability and time. No student with determination and energy need have any hesitation in undertaking a full course at Des Moines University.

It should be borne in mind, however, that a full class schedule in the University, with the necessary preparation, is planned to occupy all of a student's time. Any student who does an excessive amount of outside work in addition to a full University schedule, sacrifices scholarship or health or both. If he finds it necessary to do more than three hours outside work a day, he should register for fewer hours in school and take a longer time for the completion of his course. This can be done by attending one or more summer sessions.

SCHOLARSHIPS AND AWARDS

Three classes of Scholarships are offered by Des Moines University: Honor Scholarships, Church Endowment Scholarships, and Individual Endowment Scholarships. A full scholarship in any of these classes

covers the tuition in the regular collegiate courses, but in no case includes the incidental, athletic, or other fees and deposits.

The student graduating with highest rank from any approved High School in Iowa is entitled to an Honor Scholarship covering tuition for one year.

The Edson DeWitt St. Clair Scholarship was established by Mr. and Mrs. A. D. St. Clair in memory of their son, Edson DeWitt St. Clair.

The Andrew Merrin Greek Scholarships, established by Mrs. H. E. Worthington, of Cumberland, Iowa, in memory of her husband, Rev. Andrew J. Merrin, are available for the two ministerial students who maintain the highest rank in first and second year Greek.

Honor Scholarships.—Six scholarships have been established as follows: two for Sophomores, two for Juniors, and two for Seniors, each carrying a valuation of one-half tuition; these to be equally divided between men and women, and to be known respectively as Sophomore Honor Scholarships, Junior Honor Scholarships, and Senior Honor Scholarships. Nominations for these scholarships are made by a committee of the Faculty, who take into account all-round character and ability, grades maintained, and probable future achievements.

Rhodes Scholarship.—College men, members of the Junior or Senior class, unmarried, and between the ages of nineteen and twenty-four, are eligible to compete for the Iowa Rhodes Scholarship. The Scholarships entitle the successful candidate to a three years' residence course at Oxford University, England. The examination includes the following subjects: arithmetic, elementary algebra or elementary geometry, Latin grammar, English-Latin translation, one Latin book from such authors as Caesar, Cicero, Livy, Horace, and Virgil. Other than scholastic tests are also required, concerning which inquiry should be made.

Ordained ministers, ministers in active service, and children of ordained ministers are granted half-scholarships, giving half-rates on regular college tuition.

The Sons of the American Revolution award a bronze medal each year to the student who has the highest grade for the year in American History.

The Gould Trophy Cup, given by Rev. and Mrs. J. Orrin Gould, is awarded annually at commencement to that student organization, consisting of not less than fifteen members, which has the highest scholastic standing for the current year. When the same organization has won the Trophy for three times it becomes the permanent possessor of the Cup.

SCHOLARSHIP REQUIREMENTS

Every holder of a scholarship may be called upon to render the University some service. Such service may or may not receive compensation. No scholarships are given to students for any semester who were conditioned in any subject the preceding semester; and scholarship students are expected to maintain an average grade of not less than 85. A scholarship withdrawn because of failure for any reason may be restored after the lapse of one semester providing the student is approved by the faculty. In awarding scholarships, preference is given to regular candidates for a degree, who expect to finish their course in Des Moines University.

In order to foster the community life of the University the holder of a full or partial scholarship will be required to room in a University dormitory and board in the University dining hall. The same conditions prevail in the use of student loan funds fostered by the University.

To cover the incidental expenses in connection with a scholarship, every holder of a full tuition scholarship is required to pay an Adminis-

tration fee of \$15.00 per semester. Holders of half scholarships pay an administration fee of \$10.00 per semester.

STUDENT LOAN FUNDS

The Elizabeth Hold Hutchinson Student Loan Fund, established by Mrs. Elizabeth S. Hutchinson, Lake City, Iowa, yielding a limited amount, may be loaned to needy and worthy students on the recommendation of the executive committee.

The Glad Hand Loan Fund was established by a minister of the gospel who desires his name withheld. This fund is available to ministerial students or members of the Life Service League. The loan is made especially attractive to Baptist students who go as foreign missionaries.

The Harry Waghorn Cox Student Loan Fund, established by Mrs. Mae E. Waghorn of Creston, Iowa, in honor of her son, whose name is given to the Fund, is available for worthy men of limited means, in the Junior or Senior year.

STUDENT AID

It is the aim of the Board of Trustees of Des Moines University to assist all worthy young people who are determined to secure a college education. Therefore, preference is given to students, in the necessary work to be done about the University buildings and grounds, at a fair compensation. On their side, however, students so employed are expected to render as efficient service as the University can secure elsewhere.

WHAT TO DO UPON ARRIVAL IN DES MOINES

Upon arrival at either west side station, walk to Sixth and Walnut Streets and take a Highland Park car or a Belt Line car, and go to the end of the line. Arriving at the east side or Interurban station, take any car going west and transfer to a Highland Park or a Belt Line car.

Come to the Administration Building (the one with the tower). Bring your trunk check to the general office and arrangements will be made to have your trunk delivered. Do not give your trunk checks to strangers.

Baggage.—Every piece of baggage should contain a label or tag giving owner's name, Des Moines, Iowa, care Des Moines University, Highland Park. It is especially urged that every precaution be taken to prevent the loss of baggage. If for any reason baggage does not arrive at a junction at the same time as the passenger, and it is necessary to recheck it at that place, or to arrange for its transfer, make all arrangements with the station agent, taking the number and description of the baggage check surrendered so that the baggage can be more quickly traced should it not be forwarded promptly. Always preserve the number of the baggage check and the name of the railroad or transfer line.

GENERAL REGULATIONS

GOVERNMENT

The purpose of government in Des Moines University is two-fold: (1) to further the interests of study and scholarship, for which, primarily, the students are in attendance; and (2) to assist the students in discovering and fulfilling their relations and obligations in society, in the broad sense of that term.

In other words, the students and faculty of Des Moines University constitute a community seeking Christian education. All of the governmental purposes and regulations grow out of this situation. They are, therefore, not arbitrary, but are inherent in the nature and needs of the community itself.

Students are expected voluntarily to recognize and fulfill the obligations naturally belonging to such a Christian college community and to educated young men and women in society. The University traditions and regulations are intended as an aid to this end and not as representing a complete guide for student conduct. In order to assist students in adjusting themselves to University ideals and customs as quickly as possible, lectures are given one hour a week throughout the first semester of the Freshman year which all first-year students are required to attend.

Certain definite regulations are necessary. These are made by one or more of the three governing bodies of the University,—the Board of Trustees, the Faculty, or the Students' Association, according to the nature of the case. Some of the most important of these regulations are the following:

Students are required to attend their stated class exercises and to make the necessary preparation therefor. Two hours of preparation should be given for each class exercise.

Students are required to attend the University Assembly, which, at the present time, meets twice a week.

Social functions should be limited to Friday evening and Saturday, leaving Sunday for religious life and worship, and the balance of the week for study.

Social functions and entertainments are to be held with the approval of the Board of Social Affairs, whose consent is to be secured in each case in advance.

Student publications are under the supervision of the Board of Publications, to which material will be submitted as may be requested.

No student may engage in inter-collegiate athletics, debating, or other contest, or in student activities involving honor points, who is not of full college rank and maintaining a passing grade in at least 12 hours of college work, exclusive of required physical training; or who failed to pass in at least 12 hours, exclusive of required physical training, during the last semester when he was in residence.

All women students in all departments of the University, not residing in Des Moines, are required to room in the women's dormitory and to board in the University dining hall, unless excused by the Chancellor in consultation with parents or guardians. All women students, whether living in the dormitory or not, are subject to the University regulations for women and are under the jurisdiction of the Dean of Women.

Dancing is not permitted at college functions, nor by college groups, either on or off the campus. Young women may not attend public dances at all, and may not attend private dances except upon the written request of parents or guardians filed with the Dean of Women.

Gambling and drinking are absolutely prohibited, and any student known to engage in these practices, either on or off the campus, will be dismissed from the University.

Smoking is not permitted on the campus or about the college buildings in general.

Hazing is not permitted in any form.

Suspension or expulsion from the University involves the severing of all relations with University life on the part of the student during the period when he is under discipline. He may not attend University classes or functions, live in a University dormitory or fraternity house, or retain active membership in any University society or fraternity.

Enrollment in the University, and securing of degrees, are privileges, not rights. Students are expected to observe in good spirit all of the customs and regulations pertaining to college work and life, whether specifically expressed in this catalogue or not. Only upon these conditions are the advantages of the University offered. Other students are not desired, and may be dismissed by the faculty from the University community. In case this is done, the tuition and fees for the semester are not refunded or remitted.

The University reserves the right to amend its regulations governing degrees, courses, and student conduct whenever, in its judgment, it is wise to do so.

THE UNIVERSITY YEAR

The University school year is divided into two semesters, of 18 weeks each, and the summer session, of 10 weeks, 6 days a week, counting as two-thirds of a semester. Students may therefore complete their college course in three years by attending both semesters and the summer session each year.

REGISTRATION

Certain days at the beginning and end of semesters are designated as registration days. Students are expected to register on these days, and will be admitted to classes only upon the completion of their registration. The payment in advance of all the semester's bills is considered a part of registration. A fee of two dollars (\$2.00) will be charged students who fail to register on the days officially appointed for that purpose, except in the case of new students excused for cause. But no student may register in regular college courses after the first week of the semester except by the consent of the Dean and instructors involved. No credit is given for courses for which the student is not registered.

Students may not register for extra hours except by permission of the faculty, based upon a high average grade for the preceding semester. Students registering for more than the regular number of credit hours will be charged an extra fee at the rate of \$5.00 per credit hour.

CREDITS, HOURS, AND GRADES

Credits given for work are semester-credits, a credit representing class work for one hour a week throughout a semester, or the equivalent in laboratory work, two or three hours of laboratory counting as one hour of class work. An hour, in university usage and in this catalogue, is interpreted as meaning a class period of fifty minutes. The notation

in connection with laboratory courses, "Lects., 3; labs., 2, 3 hrs. each" signifies 3 lectures per week and 2 laboratory periods of 3 school hours each.

Semester grades are indicated by letters, as follows: A, 93-100; B, 85-92; C, 77-84; D, 70-76 (passing); E, 60-69 (condition); F, below 60 (failure); I, (incomplete). An average grade of C is required for graduation.

MINIMUM HOURS TO MAKE

Freshmen must pass in one-half of their registered hours, and upper classmen in ten hours, or they are automatically dropped from school for the succeeding semester, unless reinstated by the Committee on Curriculum and Credits or by the Faculty. When so dropped, the student is required to sever all relations with University life for the semester involved.

DEGREES AND DIPLOMAS

The degree of Bachelor of Arts or Bachelor of Science is conferred upon those who complete in a satisfactory manner the required number of semester hours and honor points in the College of Liberal Arts; the degree of Bachelor of Science in Education, in the College of Education; the degree of Bachelor of Science in Engineering, in the College of Engineering. For details of the requirements, see under the several Colleges. The time required for graduation is four years of two semesters each, or three years in case the student attends the three summer sessions also. At least one year, and this the Senior year, must be spent in residence at the University (except in the combination courses with Law, Medicine, and Nursing).

The degree of Graduate in Pharmacy, Pharmaceutical Chemist, or Bachelor of Science in Pharmacy is conferred upon graduates of the College of Pharmacy.

The degree of Bachelor of Music or Bachelor of School Music is conferred upon graduates of the Conservatory of Music.

A diploma is granted to those who complete any of the two-year courses herein described.

HONOR POINTS

Honor points are required for graduation, as follows:

1. The number of honor points required for graduation shall equal the number of credit hours required in every case.
2. The maximum number of honor points allowed shall equal twice the number of honor points required in every case.
3. No student shall obtain honor points by participation in extra-curriculum activities until his honor points acquired for scholarship shall equal his credit hours then required; that is, the student must average a grade of C on all his work taken up to the date of participation in such activities.
4. Honor points may be acquired by participation in extra-curriculum activities only upon the recommendation of and approval of the faculty committee having supervision over such activities.
5. For scholarship, a grade of A shall carry two honor points for each credit hour; a grade of B, one and one-half honor points; a grade of C, one honor point; a grade of D, one-half honor point; a grade of E or I shall carry no honor points; and a grade of F shall carry minus one honor point for each credit hour.
6. Honor points shall also be awarded for participation in extra-curriculum activities according to a schedule fixed by the faculty.

CLASSIFICATION AND CONDITIONS

All entrance conditions must be removed during the first year in college; and all required work for any given college year must be completed before a student will be advanced more than one class in rank.

A "condition" or "incomplete" for any semester must be made up within the first six weeks of the next semester in which the student is in residence, provided this is not more than one year from the time when the condition or incomplete occurred. Otherwise it is recorded as a failure. Only one examination is permitted for the removal of a condition, and no grade higher than D. A course in which the student has failed must be taken over again in class in order to secure credit.

No student should register for subjects more than one year removed from his official classification; e. g., a Sophomore should not register for Senior subjects. A Junior or Senior may not register for Freshman subjects and receive full credit for them.

A student who enters the University without conditions, or conditioned in only one unit (that is, who offers not less than 14 units for admission), will be ranked as Freshman. Upper classmen will be ranked as Sophomores, Juniors, or Seniors, according to their college credits and honor points, no student ranking with a class if he is more than two-thirds of a semester behind it in his credits and honor points.

DAILY PROGRAM**FORENOON****AFTERNOON**

| | | | |
|----------------------------------|-------------|------------------------|------------|
| First Period..... | 7:45- 8:35 | First Period..... | 1:15-2:05 |
| Second Period..... | 8:40- 9:30 | Second Period..... | 2:10-3:00 |
| Third Period | 9:35-10:25 | Third Period | 3:05-3:55 |
| Fourth Period | 10:30-11:20 | Laboratory Period..... | 1:15-3:55 |
| Fifth Period..... | 11:25-12:15 | Laboratory Period..... | 2:10-4:50 |
| Laboratory Period, Saturday..... | | | 8:00-11:00 |

BOARD

A good cafe is maintained in the basement of the administration building. This is open to all students, faculty, and University employees. The lowest prices prevail, consistent with good food. Cash coupon books are used and students pay for what they order.

ROOM RENT

The rate for rooms in the dormitories varies according to location and size as follows:

Childs Hall:

| | |
|------------------------|----------------------------------|
| 1st and 2nd floor..... | \$2.50 per week for each student |
| 3rd floor | 2.00 per week for each student |
| 4th floor | 1.50 per week for each student |

Johnson Hall:

| | |
|-----------------|----------------------------------|
| All rooms | \$2.00 per week for each student |
|-----------------|----------------------------------|

The above rates are for two in a room and are doubled for those desiring to room alone. Rooms are steam heated, lighted with electricity, and completely furnished with the exception of pillow, bed covering, and linen.

ROOM RESERVATIONS

Rooms should be reserved in advance before the beginning of each semester. This can be done by depositing a retaining fee of \$10.00 which will be applied on room rental at the time of registration. A room

deposit of \$5.00 is also required, to cover breakage and damage, which will be refunded if not needed to cover damage. The choice of rooms is made as follows: after the occupant, who has the first choice of a room, come Seniors, Juniors and Sophomores, in the order named. Rooms are assigned to incoming Freshmen in the order of their application.

TUITION AND FEES

It is the constant endeavor of the University management to keep the expenses to the student as low as possible consistent with good service. Extravagant tendencies are discouraged on the part of the student body and of all persons connected with the University.

Tuition, fees, and incidentals are payable each semester in advance. Failure of a student to settle his account at the time agreed upon may cancel his registration, cause suspension from classes, or defer his credit. A degree, diploma, transcript of credits, or honorable dismissal will not be granted until University bills have been paid in full.

In the science courses reasonable laboratory fees are charged to cover use of materials and supplies. A deposit is also required to cover breakage and destruction. The portion of this deposit not chargeable against the student will be returned at the end of the semester.

REFUNDS

No refund of money paid the University for rooms, tuition and fees is made to those leaving before the end of the semester. In special cases involving severe illness or for other causes over which the student has no control, an extension of time for the unused portion may be granted.

CLASSIFIED SCHEDULE OF TUITION, FEES, AND DEPOSITS.

TUITION

| | |
|---|---------|
| Tuition for all collegiate courses, unless otherwise stated, per semester | \$75.00 |
| Engineering courses (collegiate), per semester..... | 90.00 |
| The tuition for five hours or less of class work is one-half the regular tuition fee; for from six to ten hours, three-fourths of the regular tuition fee; for more than ten hours, the regular rates prevail. (For tuition in the School of Fine Arts, see under that school.) | |

SPECIAL FEES

| | |
|--|---------|
| For Late Registration (not required of new students if excused)... | \$ 2.00 |
| For Degree and Diploma | 10.00 |
| For Diploma (Two-Year Course) | 5.00 |
| For Certificate (Academy Short Course) | 2.50 |
| Room Deposit (returnable) | 5.00 |
| Private Locker Fee, per semester | 2.00 |
| Matriculation—Pharmacy | 5.00 |
| Recording Fee (extended payment privilege) per semester | 5.00 |
| Administration Fee (Half Scholarship Students) per semester | 10.00 |
| Administration Fee (Full Scholarship Students) per semester | 15.00 |
| Student Fee, per semester (see page 20)..... | 7.50 |
| Excess Registration Fee—per credit hour | 5.00 |
| Special Examination (unexcused absence)..... | 1.00 |
| Special Examination (to remove condition) | 2.00 |
| Special Examination (for credit) charge based on number of credit hours. | |

LABORATORY FEES, PER SEMESTER

| | | | | |
|---|--------|-----------------|---|---|
| Agriculture | \$2.00 | per credit hour | | |
| Biology | 2.00 | " | " | " |
| Chemistry— | | | | |
| Courses 12 and 14 | 3.50 | " | " | " |
| All other Chemistry courses, each | 2.75 | " | " | " |
| Engineering— | | | | |
| Laboratory or Field Work | 2.00 | " | " | " |
| Shop Courses | 2.50 | " | " | " |
| Manual Arts Craft Courses | 3.00 | " | " | " |
| Manual Arts Modeling Courses | 2.00 | " | " | " |
| Home Economics— | | | | |
| Cooking | 6.00 | " | " | " |
| Millinery | 2.25 | " | " | " |
| Sewing | 2.25 | " | " | " |
| Dietetics | 5.00 | " | " | " |
| Planning and Serving Meals | 5.00 | " | " | " |
| Pharmacy | 2.75 | " | " | " |
| Physics | 3.00 | " | " | " |
| Education— | | | | |
| Education 136 | 1.50 | " | " | " |
| Radio | 3.00 | " | " | " |

LABORATORY DEPOSITS, PER COURSE

| | |
|--|--------|
| Agriculture | \$2.00 |
| Biology— | |
| Human Physiology | 2.00 |
| All other Biology courses, each | 5.00 |
| Chemistry— | |
| Course 16 | 3.00 |
| All other Chemistry courses, each | 6.00 |
| Engineering— | |
| M. E. Laboratory courses 18, 19, 21..... | 4.00 |
| E. E. Laboratory courses 8a, 8b | 4.00 |
| Pharmacy | 6.00 |
| Physics | 6.00 |
| Radio | 7.50 |
| Shop Courses | 7.50 |

ADMISSION TO THE UNIVERSITY

Students applying for admission to the University must offer satisfactory evidence of good moral character, and those coming from other colleges and universities must present credentials of honorable dismissal.

In general, the requirements for admission are the same as those prescribed by the Iowa Board of Education for admission to the state institutions of higher education. A student who has completed a four-year course in an approved high school or academy, with not less than 15 units of credit, or who has done an equivalent amount of preparatory work elsewhere, will be admitted to the University. A unit represents a study satisfactorily pursued for a school year of 36 weeks on the basis of 5 recitation periods per week of not less than 40 minutes each (a laboratory period being twice this length), the course requiring not more than 4 studies, or 20 recitation periods, per week.

The admission of high school graduates to the University, however, does not affect the terms upon which they may graduate from the various colleges or schools of the University. If students are deficient in the specific preparatory requirements for these courses they must proceed at once to remove the deficiency, without college credit, as a part of, not in addition to, the regularly allowed schedule hours. This may be done in the University Institute, or, in some cases, in appropriate Freshman courses on the basis of 6 semester hours for each secondary unit.

METHODS OF ADMISSION

The requirements for admission may be fulfilled in any of the following ways:

1. By presenting a certificate of graduation from any approved four-year high school or academy, signed by the Superintendent or Principal, showing the completion of at least 15 units of preparatory work. The 15 units may consist of credit in any subjects which are certified as accepted by the high school authorities toward graduation. In this case no examination is required for admission.

2. If the applicant is a graduate of other than an approved four-year high school or academy, he must present as many as 14 acceptable units by certificate or by examination, or both. The certificate must be accompanied by a statement from the Principal that the student is in good standing in the school and presumably able to pursue college work successfully. Such applicant will be conditioned in whatever is lacking to bring his entrance credits up to 15 units, and these conditions must be removed within one year from date of admission.

3. Entrance credits will be allowed for teachers' certificates as follows:

On a first grade uniform county certificate, in specific subjects marked 85 or above, 5 units.

On a state certificate, gained by examination, in specific subjects: Second grade, 10½ units; first grade, 14 units; life diploma, 16 units.

4. Any student whose case is not covered by the foregoing provisions, will be admitted upon passing entrance examination at the University

on the subjects covered in a four-year high school course and giving satisfactory evidence that he has devoted sufficient time to preparation.

5. Mature students, twenty-one years of age or over, not candidates for a degree, may be admitted as unclassified students upon satisfactory evidence that they are qualified to pursue profitably the subjects for which they wish to register, and upon showing sufficient reason why they should not enroll for a regular course.

ADMISSION PROCEDURE

Candidates for admission to Des Moines University should furnish the following credentials:

1. A formal application sent in advance or made out upon registration. It will save time and inconvenience to send the application in as early as possible, accompanied by room reservation.

2. A statement concerning character and ability.

3. A certificate of health, signed by a physician.

4. A statement of high school credits.

Blanks for the first three above may be obtained upon application to the University. For number four, the credentials should be secured from the high school authorities in the candidate's school.

Examination must be taken at the University in such entrance subjects as are not covered by the high school work, or other provision must be made for removing any conditions.

Registration and Classification should be completed at the University on the days designated for that purpose.

ADVANCED STANDING

Students who bring credentials of honorable dismissal and certificates of credit from other standard colleges and universities are ordinarily admitted to equal rank, provided they enter not later than the beginning of the Senior year.

High school work will be given credit for advanced standing only in case there is an excess of 16 units and a rigid examination is passed at the University based on corresponding college courses.

Advanced standing may be secured by examination covering the same ground as in scheduled University courses, and satisfactory evidence that adequate time and study have been devoted to preparation for examination.

SUBJECTS REQUIRED OR ACCEPTED FOR ADMISSION

It should be particularly noted that entrance requirements to specific Colleges or Courses in the University must be fulfilled in addition to the general requirements for admission. These specific requirements are indicated in this catalogue in the statements concerning the several Colleges. The required and elective subjects for admission are taken from the following list, in which the minimum and maximum credits allowed are stated in terms of units:

1. FOREIGN LANGUAGE (not more than 4 units in any one foreign language):

| | |
|--------------------|--------------|
| Greek | 1 to 4 units |
| Latin | 1 to 4 units |
| French | 1 to 4 units |
| Spanish | 1 to 4 units |
| German | 1 to 4 units |
| Scandinavian | 1 to 4 units |

2. ENGLISH (not more than 4 units, including the required 3 units).

3. HISTORY—CIVICS—ECONOMICS (not more than 4 units, including the required unit):

| | |
|---|-------------------------|
| Ancient history | $\frac{1}{2}$ to 1 unit |
| Medieval and modern history | $\frac{1}{2}$ to 1 unit |
| English history | $\frac{1}{2}$ to 1 unit |
| U. S. history (only if taken with the latter half of the high school course) | $\frac{1}{2}$ to 1 unit |
| General history (but not in addition to ancient, medieval, and modern history) | 1 unit |
| Civil government | $\frac{1}{2}$ to 1 unit |
| Political economy | $\frac{1}{2}$ unit |
| Sociology | $\frac{1}{2}$ unit |

4. MATHEMATICS (not more than 4 units, including the required 2 units):

| | |
|---|-------------------------|
| Algebra | 1 unit |
| Plane geometry | 1 unit |
| Solid geometry | $\frac{1}{2}$ unit |
| Plane trigonometry | $\frac{1}{2}$ unit |
| Advanced algebra (the fourth half unit only when taken in the fourth year, and only when including variations, arithmetical and geometrical progressions, binominal theorem for positive and negative exponents, with review of third semester's work) | $\frac{1}{2}$ to 1 unit |

5. SCIENCE (not more than $4\frac{1}{2}$ units):

| | |
|--|-------------------------|
| Physics, not less than | 1 unit |
| Chemistry, not less than | 1 unit |
| Physical geography or physiography | $\frac{1}{2}$ to 1 unit |
| Botany | $\frac{1}{2}$ to 1 unit |
| Zoology | $\frac{1}{2}$ to 1 unit |
| Physiology | $\frac{1}{2}$ unit |
| Geology | $\frac{1}{2}$ unit |
| Astronomy | $\frac{1}{2}$ unit |
| Agriculture (as science) | $\frac{1}{2}$ to 1 unit |
| General science | $\frac{1}{2}$ to 1 unit |

6. COMMERCIAL, INDUSTRIAL AND MISCELLANEOUS SUBJECTS (not more than 4 units):

| | |
|---|--------------------------|
| Advanced, or commercial, arithmetic (only if taken after the completion of $1\frac{1}{2}$ units in algebra, or in the latter half of the high school course) | $\frac{1}{2}$ unit |
| Double entry bookkeeping | $\frac{1}{2}$ to 1 unit |
| Advanced bookkeeping | $\frac{1}{2}$ to 1 unit |
| Commercial geography | $\frac{1}{2}$ unit |
| Commercial law | $\frac{1}{2}$ unit |
| Industrial history | $\frac{1}{2}$ to 1 unit |
| History of commerce | $\frac{1}{2}$ unit |
| Stenography | $\frac{1}{2}$ to 2 units |
| Telegraphy | $\frac{1}{2}$ to 2 units |
| Freehand or mechanical drawing | $\frac{1}{2}$ to 2 units |
| Manual training, i. e., shop work | $\frac{1}{2}$ to 2 units |
| Domestic science | $\frac{1}{2}$ to 2 units |
| Psychology | $\frac{1}{2}$ to 1 unit |

| | |
|---|--------------------------|
| Pedagogy | $\frac{1}{2}$ to 1 unit |
| Bible | $\frac{1}{2}$ to 1 unit |
| Music (only when taken as a full subject with daily class periods, with the usual daily periods of study) | $\frac{1}{2}$ to 2 units |
| Public Speaking (not in addition to 4 units in English) | $\frac{1}{2}$ unit |

NOTE: Credit is not given, except upon the passing of the regular entrance examinations, for English grammar and United States history when these subjects are given in the ninth or tenth grade; nor for arithmetic unless this subject is given *after the completion* of three semesters of work in algebra, or in the latter half of the high school course.

THE COLLEGE OF LIBERAL ARTS

REQUIREMENTS FOR ADMISSION

For requirements for admission to the University in general, see pages 30-33.

For unconditional admission to the College of Liberal Arts, the student must present preparatory work to the extent of 15 units, as follows:

Required:

| | |
|------------------------|---------|
| English | 3 units |
| Foreign language | 2 units |
| Mathematics— | |
| Algebra | 1 unit |
| Plane geometry | 1 unit |
| History | 1 unit |
| Science | 1 unit |

Elective:

Six units from the list found on pages 31-33, at least two units of which shall be from the five principal groups: English, foreign language, mathematics, natural sciences, and the history-civics-economics group.

Not less than one unit will be accepted in physics, chemistry, or any foreign language, and at least two years in one foreign language are advised.

Not less than one-half unit will be accepted in any subject (or one-third unit in the case of secondary schools whose year is divided into three terms of twelve weeks each).

A student is admitted to the College upon the presentation of any 15 acceptable units from the list on pages 31-33, if these contain 3 units of English, 1 unit of algebra, and 1 unit of plane geometry. He may then adjust his foreign language requirements on the basis of note 2, page 35, and his history and science requirements by taking additional college work in these subjects, beyond that listed in the curriculum, on the basis of six college semester hours for one preparatory unit. The student is strongly advised, however, to take in high school the subjects indicated above as required, since otherwise he will diminish the number of free electives which he may take in college; for example, if no foreign language, or only one year, is offered for admission, three years of foreign language, instead of two, will be required in college.

A student may be admitted to the College conditionally with only 14 units of preparatory work; but entrance conditions must be removed during the first year in College.

REQUIREMENTS FOR GRADUATION

Two degrees are granted in the College of Liberal Arts, Bachelor of Arts and Bachelor of Science; the choice depending chiefly upon the amount of work in foreign language and in mathematics and science taken by the student. Either degree is granted upon the successful

completion of 124 semester-hours of work, including 4 hours of required physical training, together with an equal number of honor points.

The courses in the College of Liberal Arts are divided into the following groups:

- Group I. Language and Literature.
- Group II. Mathematics and Natural Science.
- Group III. Philosophy, Social Science, and Religion.

For the A. B. degree, the major and minor may be chosen from any of these groups, but both may not be chosen from Group II.

For the B. S. degree, the major will be chosen from Group II, and a year of mathematics or science may be substituted for one year of college foreign language.

In order to give unity to the student's course, a major subject and a related minor subject will be selected by him in his Sophomore year or not later than the beginning of his Junior year, and he will complete before his graduation a total of not less than 20 hours for the major and 10 hours for the minor. If there is any variation in the number of hours constituting the major or minor, it will be indicated under the description of the various departmental courses.

CURRICULUM FOR BACHELOR OF ARTS DEGREE

On the basis of the admission requirements listed above, the required and elective work for the Bachelor of Arts degree is indicated by the following schedule:

| | |
|----------------------------------|----------------|
| English ¹ | 10 hours |
| Foreign Language ² | 12 to 20 " |
| Mathematics or Science | 8 to 10 " |
| History | 6 " |
| Biblical Literature ³ | 4 " |
| Social Science | 9 " |
| Philosophy and Psychology | 6 " |
| Physical Education | 4 " |
| <hr/> | |
| Total required | 59 to 69 hours |
| Major Elective ⁴ | 20 " |
| Minor Elective ⁴ | 10 " |
| Free Electives | 35 to 25 " |
| <hr/> | |
| Total for Graduation | 124 hours |

¹The faculty may require any student deficient in oral or written English to take one or more additional courses to remove his deficiency before graduation.

²The number of hours of foreign language depends upon whether beginning language is taken, which is five hours a week, or continuation language, three hours a week. Two years of foreign language are required, following two years for admission. If no foreign language, or only one year, is offered for admission, three years will be required in college. If three years, or four years, are offered for admission, one year will be required in college. The total requirement is four years in high school and college combined; provided, (1) that at least one year shall be taken in college unless the student has had five years or more in high school, and (2) that if all the foreign language is taken in college three years shall fulfill the requirement. It is recommended that not less than two years be taken in any one language.

³Unless excused by the committee on courses and classification.

⁴In some departments the required work listed above, or part of it, may count toward the major or minor, increasing the number of free electives to that extent. See under the several departments.

SCHEDULE OF WORK BY YEARS

FRESHMAN

| First Semester | | Second Semester | |
|-------------------------------------|----------------|-------------------------------------|----------------|
| | Hrs. Cr. | | Hrs. Cr. |
| English | | English | |
| 1a Freshman | 3 | 1b Freshman | 3 |
| Foreign Languages ¹ | 5 to 3 | Foreign Languages ¹ | 5 to 3 |
| Mathematics or Science ² | 5 to 4 | Mathematics or Science ² | 5 to 4 |
| History ³ | | History ³ | |
| 1a Mediaeval, or | 3 | 1b Modern, or | 3 |
| 2a American, or | 3 | 2b American, or | 3 |
| Bible | | Bible | |
| 1a Orig. & Inter. Old Test. 2 | | 1b Orig. & Inter. New Test. 2 | |
| Physical Education | | Physical Education | |
| 1a Freshman | 1 | 1b Freshman | 1 |
| Elective | 0 to 2 | Elective | 0 to 2 |
| | <hr/> 16 or 17 | | <hr/> 16 or 17 |

SOPHOMORE

| | | | |
|-------------------------------|----------|-------------------------------|----------|
| English | | English | |
| 5a Char. & Forms of Liter. | 2 | 5b Char. & Forms of Liter. | 2 |
| Foreign Language ⁴ | 3 | Foreign Language ⁴ | 3 |
| Social Science ⁵ | | Social Science ⁵ | |
| Sociology 1 | 3 | Economics 2 | 3 |
| Bible ⁶ | | Bible ⁶ | |
| 2a Life of Jesus | 3 | 2b Christian Dynamic and | |
| Physical Education | | Social Teach. of Jesus | 3 |
| 2a Sophomore | 1 | Physical Education | |
| Elective | 4 | 2b Sophomore | 1 |
| | — | Elective | 4 |
| | <hr/> 16 | | <hr/> 16 |

JUNIOR AND SENIOR

| | | | |
|-------------------------|----------|-----------------------------|----------|
| Psychology ⁶ | 3 | Philosophy ⁶ | 3 |
| Major Elective | 10 | Social Science ⁶ | 3 |
| Minor Elective | 5 | Political Science 2 | 3 |
| Free Elective | 12 | Major Elective | 10 |
| | — | Minor Elective | 5 |
| | <hr/> 30 | Free Elective | 9 |
| | | | <hr/> 30 |

¹Not required if five or more years are offered for admission, but free electives may be substituted.

²If physics is elected, it should be taken in the Sophomore year, and trigonometry should be taken in the Freshman year unless it is offered for admission. Those who take physics may postpone social science until the Junior year.

³If preferred, Biblical literature may be taken in the Freshman year and history in the Sophomore year.

⁴Not required if three or more years of foreign language are offered for admission and the requirement completed in the Freshman year, but free electives may be substituted.

⁵The required courses in social science, unless otherwise determined in special cases, are economics and sociology in the Sophomore year, and political science in the Junior year.

⁶With the approval of the Dean, an additional 3 hours in psychology may be substituted for philosophy, and these subjects and political science may be taken in either semester.

BACHELOR OF SCIENCE DEGREE

The required and elective work for the Bachelor of Science degree are the same as for the Bachelor of Arts degree, with stronger emphasis placed upon mathematics and science, as indicated above. The major will be chosen from Group II, one year less required in foreign language, and 3 hours less in social science. (6 hours in any two of the social sciences meet the requirement.) One year each in mathematics and science is required.

BACHELOR OF SCIENCE IN CHEMISTRY**FRESHMAN**

| First Semester | Hrs. Cr. | Second Semester | Hrs. Cr. |
|--------------------|----------|--------------------|----------|
| English | | English | |
| 1a Freshman | 3 | 1b Freshman | 3 |
| Chemistry | | Chemistry | |
| 1a Inorganic | 3 | 1b Inorganic | 3 |
| 2a Inorganic Lab. | 2 | 2b Inorganic Lab. | 2 |
| Mathematics | | Mathematics | |
| 1a First year | 5 | 1b First year | 5 |
| Physical Education | | Physical Education | |
| 1a Freshman | 1 | 1b Freshman | 1 |
| Elective | 2 | Elective | 2 |
| | <hr/> 16 | | <hr/> 16 |

SOPHOMORE

| | | | |
|------------------------|----------|---------------------|----------|
| Chemistry | | Chemistry | |
| 3 Adv. Inorganic | 2 | 5 Quantitative | 2 |
| 4 Qual. and Mineralogy | 2 | 6 Quantitative Lab. | 3 |
| Physics | | Physics | |
| 2a General | 5 | 2b General | 5 |
| French or German | | French or German | |
| 1a Beginning | 5 | 1b Beginning | 5 |
| Physical Education | | Physical Education | |
| 2a Sophomore | 1 | 2b Sophomore | 1 |
| Elective | 1 | | |
| | <hr/> 16 | | <hr/> 16 |

JUNIOR

| | | | |
|----------------------|----------|---------------------------|----------|
| Chemistry | | Chemistry | |
| 11 Organic | 4 | 13 Adv. Organic | 3 |
| 12 Organic Synthesis | 2 | 14 Adv. Organic Synthesis | 2 |
| 10 Quantitative | 2 | 10 Quantitative | 2 |
| Elective | 7 | Elective | 8 |
| | <hr/> 15 | | <hr/> 15 |

SENIOR

| | | | |
|----------------|----------|----------------|----------|
| Chemistry | | Chemistry | |
| 18a Industrial | 3 | 18b Industrial | 3 |
| 21 Physical | 3 | 23 History | 2 |
| Lab. Elective | 2 | Lab. Elective | 2 |
| Elective | 7 | Elective | 8 |
| | <hr/> 15 | | <hr/> 15 |

Note—It is understood that the courses designated as elective in this outline include the regular requirements for the B. S. degree, as stated above. When these requirements have been fulfilled, the remaining courses may be taken in chemistry or in any other department.

BACHELOR OF SCIENCE IN COMMERCE

The requirements for the degree, Bachelor of Science in Commerce, are the same as for the Bachelor of Science degree, with a major in Economics and Business Administration. The work of the first two years is the same as in the standard curriculum for Bachelor of Science, except that the following specific courses are required:

Economic Resources

Principles of Economics

Principles of Accounting

During the Junior and Senior years the student will elect his major from the subjects listed under the Department of Economics and Business Administration.

BACHELOR OF SCIENCE IN HOME ECONOMICS

FRESHMAN

| First Semester | Hrs. Cr. | Second Semester | Hrs. Cr. |
|------------------------------------|----------|------------------------------------|----------|
| English | | English | |
| 1a Freshman | 3 | 1b Freshman | 3 |
| Foreign Language ¹ , or | 5 to 3 | Foreign Language ¹ , or | 5 to 3 |
| History ² , or | 3 | History ² , or | 3 |
| Bible ² | 2 | Bible ² | 2 |
| Chemistry | | Chemistry | |
| 1a Inorganic | 3 | 1b Inorganic | 3 |
| 2a Inorganic Lab. | 2 | 2b Inorganic Lab. | 2 |
| Drawing | | Drawing | |
| 6 Prin. of Perspective | 2 | 3 Color, Theory and Design | 2 |
| Home Economics | | Home Economics | |
| 2 Textiles and Gar. Making | 2 | 1 Select. and Prep. of Foods | 2 |
| Physical Education | | Physical Education | |
| 1a Freshman | 1 | 1b Freshman | 1 |
| | 16 | | 16 |

SOPHOMORE

| | | | |
|------------------------------------|----|------------------------------------|----|
| Foreign Language ¹ , or | 3 | Foreign Language ¹ , or | 3 |
| History ² , or | 3 | History ² , or | 3 |
| Bible ² | 2 | Bible ² | 2 |
| Biology | | Biology | |
| 25 Bacteriology | 1 | 5 Physiology | 2 |
| 26 Bacteriology Lab. | 2 | 6 Physiology Lab. | 1 |
| Home Economics | | Home Economics | |
| 3 Adv. Clothing | 2 | 7 Home Decoration | 2 |
| 5 Home Sanitation and Arch. | 2 | 8 Plan. and Serv. Meals | 2 |
| 6 Foods | 2 | Physical Education | |
| Psychology | | 2b Sophomore | 1 |
| 1 General | 3 | Elective | 5 |
| Physical Education | | | 16 |
| 2a Sophomore | 1 | | |
| | 16 | | |

JUNIOR AND SENIOR

| | | | |
|-----------------------------|---|-----------------------------|---|
| Psychology ³ | 3 | Philosophy ³ | 3 |
| History ² | 3 | History ² | 3 |
| Social Science ⁴ | | Social Science ⁴ | |
| Sociology 1, or | 3 | Economics 2, or | 3 |

| | | | |
|-----------------------------|----|-----------------------|----|
| Political Science 1 | 3 | Political Science 2 | 3 |
| Chemistry | | Chemistry | |
| 11 Organic | 4 | 15 Chem. of Nutrition | 3 |
| 12 Organic Synthesis | 2 | 16 Food Prod. Lab. | 2 |
| Home Economics | | Home Economics | |
| 11 Household Economics | 2 | 9 Dietetics | 3 |
| 12 Household Management | 3 | 10 Dress Design | 3 |
| 13 Hist. of H. Ec. Movement | 2 | 14 Teachers Course | 2 |
| Elective | 8 | Elective | 8 |
| | 30 | | 30 |

¹See foreign language requirements, note 2, page 35 and Bachelor of Science Degree, page 37.

²If foreign language requirement has been fulfilled, history, 6 hours, and Bible, 4 hours, will be taken in the Freshman and Sophomore years; otherwise, the requirements in these subjects will be fulfilled in the Junior year.

³With the approval of the Dean, an additional 3 hours in psychology may be substituted for philosophy, and these subjects and political science may be taken in either semester.

⁴Six hours are required in any two of the three social sciences.

Note—It is understood that the courses designated as elective in this outline include the regular requirements for the B. S. degree, as laid down on page 37. When these requirements have been fulfilled, the remaining courses may be taken in any other department.

BACHELOR OF ARTS IN MUSIC

For a major in music the student must earn a minimum of twenty-eight hours in that subject, including not less than seventeen hours in theoretical music. For a minor the student must earn sixteen hours, including not less than ten hours in theoretical music. Credits earned in elementary piano may be credited toward the degree, but they may not be included in the major. A total of not more than thirty hours may be taken in music, and not more than ten hours of this may be in applied music.

The candidate for this degree will not be required to present a full memorized program of music, but by the end of four years he should be able to perform in public acceptably. The emphasis will be placed on the scientific, appreciative, historical, and sociological aspects of music.

If in connection with his bachelor's degree in music the student wishes to receive also a first grade state teacher's certificate he must earn, in addition to the foregoing, a minimum of fourteen hours in education and six hours in psychology, in courses prescribed for that purpose.

If a student is planning, however, to teach music in the public schools, he should take the course in Public School Music instead of the above course.

PRE-MEDICAL AND PRE-DENTAL COURSE

All Class A medical colleges require, in addition to a four-year high school course, at least 60 semester hours (90 quarter hours) of college work for entrance to the medical course. This must include one year each of English, inorganic chemistry, physics, and biology, and a course in organic chemistry. Dental college requirements are similar. Some medical colleges require other courses also, such as quantitative analysis, and college French or German. The student intending to study medicine should familiarize himself early in his first college year with the entrance requirements of the medical school which he intends to enter. Several such schools require a bachelor's degree or its equivalent. Rush Medical College requires three years of college work. The

College of Medicine of the University of Iowa requires a year of French or German and 12 semester hours of non-science subjects in addition to English and foreign language. The two-year course outlined below can be adjusted to fulfill the requirements for most Class A medical colleges.

| FIRST YEAR | | | |
|----------------------|----------|----------------------|----------|
| First Semester | Hrs. Cr. | Second Semester | Hrs. Cr. |
| English | | English | |
| 1a Freshman | 3 | 1b Freshman | |
| Chemistry | | Chemistry | |
| 1a Inorganic | 3 | 1b Inorganic | |
| 2a Inorganic Lab. | 2 | 2b Inorganic Lab. | |
| Biology | | Biology | |
| 1a Gen. Biology | 2 | 1b Zoology | |
| 2a Gen. Biology Lab. | 2 | 2b Zoology Lab. | |
| Non-Science Elective | 3 | Non-Science Elective | |
| Physical Education | | Physical Education | |
| 1a Freshman | 1 | 1b Freshman | 1 |
| | — | | — |
| | 16 | | 16 |
| SECOND YEAR | | | |
| Physics | | Physics | |
| 1a College | 5 | 1b College | 5 |
| French or Elective | 5 | French or Elective | 5 |
| Chemistry | | Physical Education | |
| 11 Organic | 4 | 2b Sophomore | 1 |
| 12 Organic Synthesis | 2 | *Elective | 6 |
| Physical Education | | | — |
| 2a Sophomore | 1 | | 17 |
| | — | | — |
| | 17 | | |

*For University of Iowa, this should be non-science. If the student already has sufficient non-science credits, Chemistry 7 (1 hour) and Chemistry 8 (2 hours) should be taken.

COMBINED LIBERAL ARTS AND MEDICINE

By vote of the faculty of the College of Liberal Arts, any student who has satisfactorily completed 94 hours (three years) in residence in the College of Liberal Arts and has fulfilled the specific requirements for the Bachelor of Science degree, may receive his degree from the University after the satisfactory completion of two years' work in a medical school of standard rank, these two years being accepted in lieu of the Senior year at the University. The three-year course includes the two-year pre-medical course outlined above, with a third year's work arranged to complete the requirements for the B. S. degree. Further work in biology and chemistry is also advised.

COMBINED LIBERAL ARTS AND LAW

A student who has satisfactorily completed 94 hours (three years) in residence in the College of Liberal Arts and has fulfilled the specific requirements for his degree, may receive his degree from the University after the satisfactory completion of two years' work in a law school of standard rank, these two years being accepted in lieu of the Senior year at the University.

COMBINED LIBERAL ARTS AND NURSING

By arrangement with the Iowa State University, a student may take combined five-year course in Liberal Arts and Nursing, the first three years being spent in residence at this University, and the last two years at the State University. This University grants the Bachelor of Science degree upon the satisfactory completion of the five years' course, accepting the two years' nursing course in lieu of its Senior year, and the State University grants the Certificate of Graduate Nurse.

The three-year course at this University is the first three years of the regular Bachelor of Science curriculum, with the following special requirements: Chemistry is to be taken as the required science of the freshman year. Three hours each must be taken in hygiene, physiology, and bacteriology, and eight hours in foods. Six hours each are required in sociology and psychology. All of the specific requirements for the B. S. degree in this University must be fulfilled, and 94 hours of residence work must be satisfactorily completed.

The two years at the State University include nursing theory and practice, with lectures and class work covering the various required subjects, and with nursing experience in the University Hospital.

Maintenance and tuition are furnished by the State University during the two years in residence there, in return for the student's services in the Hospital. After the first three months a small allowance is also made to help defray the expense of books and uniforms.

DESCRIPTION OF COURSES**AGRICULTURE**

(See Biology and Agriculture.)

ART

(See School of Fine Arts.)

ASTRONOMY

1. ASTRONOMY. 3 hours, first semester.

This is essentially a descriptive course, including the study of astronomical instruments, the earth as an astronomical body, the moon, the sun, the planets, asteroids, satellites, the stars, nebulae, comets, meteors, etc. Prerequisites: high school physics and mathematics 1a, b.

ATHLETICS

(See Physical Education and Athletics.)

BIBLICAL LITERATURE AND RELIGIOUS LIFE

The courses in this department are planned to give to young people in the period of their awakening a well-rounded preparation in Christian fundamentals, to maintain a deep religious conviction based upon intelligent study, and to develop desire and ability for efficient religious service in society. There is no purpose to compete in any way with seminaries where ministers and missionaries are being trained. The courses are practical rather than theoretical and critical, and aim at a sane development of the Christian life. They will be conducted as a regular part of the college curriculum and receive credit as do other University courses.

For all Liberal Arts students a minimum of four hours will be required for graduation, to be taken during the Freshman and Sophomore years, unless postponed by special arrangement. Choice may be made from the following subjects, which are also open to students from High Schools and Colleges of the University:

- 1a. ORIGIN AND INTERPRETATION OF THE OLD TESTAMENT. 2 hours, first semester.

This course traces the origin and growth of the Old Testament, and gives a bird's-eye view of the various books in their historical setting.

- 1b. ORIGIN AND INTERPRETATION OF THE NEW TESTAMENT. 2 hours, second semester.

Continuation of Course 1a, for the New Testament.

- 2a. THE LIFE OF JESUS. 3 hours, first semester.

This course includes Messianic foregleams, New Testament times, and the synoptic gospels.

- 2b. THE CHRISTIAN DYNAMIC AND THE SOCIAL TEACHINGS OF JESUS. 3 hours, second semester.

This includes a study of the Holy Spirit, John's writings, and the application of Christ's messages for world reconstruction.

- 3a. THE LIFE OF PAUL. 2 hours, first semester.

Covering the Book of Acts and the Letters of the Apostles.

- 3b. CHURCH HISTORY. 2 hours, second semester.

This course studies the Rise of the Papacy, the Reformation, and Modern Church activities.

- 4a. SPREAD OF CHRISTIANITY. 2 hours, first semester.

A course following Christianity as an historic missionary movement.

- 4b. WORLD RELIGIONS. 2 hours, second semester.

This is a study of various faiths in comparison with the faith of Christianity.

- 5a. PEDAGOGY OF RELIGION. 2 hours, first semester.

This course and the one following are planned for those who are to teach the Bible in public schools and Sunday schools. They also cover daily vacation and daily continuous Bible schools. The first semester considers the adaptation to religious instruction of the principles of child psychology, teacher preparation, and methods of teaching.

- 5b. PEDAGOGY OF RELIGION. 2 hours, second semester.

This course discusses the pedagogical selection of Bible material, together with its interpretation and application.

BIOLOGY AND AGRICULTURE

Twenty semester hours in Plant and Animal Biology, in addition to the required year in Science, will be required for a major in Biology.

Ten semester hours in Plant and Animal Biology, in addition to the required year in Science, will be required for a minor in Biology.

The laboratory fee for each course in biology and agriculture is \$2.00 per credit hour; a breakage deposit of \$5.00 is required of each student for each course, except human physiology and agriculture, for which the deposit is \$2.00.

ANIMAL BIOLOGY

- 1a. GENERAL BIOLOGY. 2 hours, first semester.

An introductory course illustrating the general principles of biological science through a detailed study of type forms. Forms a year's course with 1b. Required of all pre-medical and pre-dental students and

candidates for B. S. in Chemistry. Elective to Liberal Arts students and those specializing in Education. Course 2a must be taken with Course 1a.

GENERAL BIOLOGY LABORATORY. 2 hours, first semester.
Concurrent with Course 1a. Labs., 2, 3 hours each.

ZOOLOGY. 2 hours, second semester.

This course deals with the morphology and histology of type forms from each phylum, together with a study of the activities, distribution, habits, and life histories of the vertebrates, and invertebrates. Required of all pre-medical and pre-dental students. Elective to students in the Colleges of Liberal Arts and Education. Prerequisite: Courses 1a and 2a. Course 2b must be taken with Course 1b.

ZOOLOGY LABORATORY. 2 hours, second semester.
Concurrent with Course 1b. Labs., 2, 3 hours each.

COMPARATIVE ANATOMY. 2 hours, first semester.

A comparative study of the development of the more important systems and the progressive differences in the organs as found in vertebrates. Prerequisites: Courses 1a, 2a, 1b, and 2b. Course 4 must be taken with Course 3.

COMPARATIVE ANATOMY LABORATORY. 1 hour, first semester.
Concurrent with Course 3. Lab., 1, 3 hours.

HUMAN PHYSIOLOGY. 2 hours, second semester.

A study of the normal physiological processes in man, with special emphasis upon preventive medicine, sanitation and social hygiene. It furnishes a foundation for a better appreciation of the courses in psychology, sociology, and education. Open to all students except pre-medical and pre-dental. Required of first year Pharmacy students, and second year students in Home Economics. Course 6 must be taken with Course 5.

HUMAN PHYSIOLOGY LABORATORY. 1 hour, second semester.
Concurrent with Course 5. Lab., 1, 3 hours.

HYGIENE AND SANITATION. 3 hours, second semester.

The course includes a study of heating, ventilation, water and water supply, sewage disposal, handling and dispensing milk, handling foods in relation to disease, and safeguarding against infectious disease; also school hygiene, industrial hygiene and vital statistics. Lectures and laboratory work, supplemented by trips to city plants.

PLANT BIOLOGY

21a. CRYPTOGAMIC BOTANY. 2 hours, first semester.

Intended to give a comprehensive survey of the flowerless plants, beginning with the simple uni-cellular types and tracing the unfolding of the plan of plant creation till it reaches its fullest development in the highly specialized flowering plants. Forms a year's course with 21b. Course 22a must be taken with Course 21a. Elective to students in the Colleges of Liberal Arts and Education.

22a. CRYPTOGAMIC BOTANY LABORATORY. 2 hours, first semester.
Concurrent with Course 21a. Labs., 2, 3 hours each.

21b. PLANT RELATIONS. 2 hours, second semester.

This course deals with the classification, habits, uses, and other features of plants which distinguish them as living beings and the companion of man. Prerequisite: Courses 21a and 22a.

22b. PLANT RELATIONS LABORATORY. 2 hours, second semester.
Concurrent with 21b. Labs., 2, 3 hours each.

23. **THE NATURE AND DEVELOPMENT OF PLANTS.** 2 hours, second semester.
The purpose of this course is to lay a good foundation for advanced work in histology, morphology, and physiology of plants. Prerequisite: Courses 21a, 22a, 21b, and 22b.

24. **THE NATURE AND THE DEVELOPMENT OF PLANTS LABORATORY.** 1 hour, second semester.

Concurrent with Course 23. Lab., 1, 3 hours.

25. **BACTERIOLOGY.** 1 hour, first semester.

Chiefly a laboratory course dealing with bacteria, yeasts and moulds in their relation to man and to domestic animals and plants. Especial emphasis will be placed upon laboratory technique. Text-book assignments and weekly quiz. For second year students in Home Economics and for Pharmacy students who are candidates for Ph. C. Open to Liberal Arts students who have completed a year of biology.

26. **BACTERIOLOGY LABORATORY.** 2 hours, first semester.

Concurrent with Course 25. Labs., 2, 3 hours each.

121. **PHARMACEUTICAL BOTANY.** 3 hours, first semester.

For Pharmacy students. Taken in connection with Course 122.

122. **MICROSCOPY.** 1 hour, first semester.

For Pharmacy students. A laboratory course, confined to plant structure. Must be taken in connection with Course 121. Labs., 2, 3 hours each.

123. **HISTOLOGICAL PHARMACOGNOSY.** 2 hours, first semester.

For Pharmacy students. Prerequisite: Courses 121 and 122.

AGRICULTURE

Ten hours, in addition to Biology 1a and 2a, are required for a minor in Agriculture.

51. **CROPS.** 2 hours, second semester.

This course begins with a brief review of general agriculture, followed by an intensive study of farm, orchard and garden crops. Prerequisite: Biology 1a and 2a or equivalent.

52. **CROPS LABORATORY.** 2 hours, second semester.

Must be taken with Course 51. Consists of plot, field trip and laboratory exercises. Instruction will be given in methods of organizing and conducting laboratory courses adapted to elementary schools. Labs., 2, 3 hours each.

53. **SOILS AND SOIL FERTILITY.** 2 hours, first semester.

A study of the origin, transportation and deposition of the leading soils of Iowa. Prerequisites: Courses 51 and 52.

54. **SOILS AND SOIL FERTILITY LABORATORY.** 1 hour, first semester.

Laboratory analysis of the composition and the physical properties of various soils. Field trips for observation and the collecting of material. Lab., 1, 3 hours.

55. **ANIMAL HUSBANDRY AND STOCK JUDGING.** 2 hours, second semester.

Consists of lectures, assigned readings and reports upon the care and management of farm animals. Prerequisite: Course 53.

56. **ANIMAL HUSBANDRY AND STOCK JUDGING LABORATORY.** 1 hour, second semester.

Concurrent with Course 55. Actual practice in the judging of live stock will be required throughout the semester. Field trips, and laboratory work in dairying and dairy products. Lab., 1, 3 hours.

57. **FARM MANAGEMENT.** 2 hours, second semester.

Application of business and economic principles to farming, together

with a thorough discussion of the relation of the teacher of agriculture to the rural community and its needs.

Frequent field trips to local farms to study actual conditions and to suggest improvements of farm methods. Elective. Prerequisite: 7 hours Agriculture.

CHEMISTRY

The Department of Chemistry offers courses fulfilling the chemistry requirements in the curricula of the College of Liberal Arts, the College of Pharmacy, the College of Engineering, the Department of Home Economics, and the pre-medical course.

For those desiring to pursue chemistry as a profession, the curriculum outlined on page 37 may be elected. This course conforms to the regular requirements for the B. S. degree in the College of Liberal Arts, but because of its professional character, the specialized degree B. S. in Chemistry will be granted to those completing it. Graduates of such a course are prepared to pursue graduate work for training in research, or to accept industrial or teaching positions in chemistry. Those interested primarily in the industrial side of chemistry are advised to register in chemical engineering (see page 82).

Liberal Arts students electing chemistry as a major are required to make 20 semester hour credits in addition to Courses 1 and 2. A minor requires 10 hours in addition to Courses 1 and 2.

Laboratory fees in chemistry are at the rate of \$2.75 for each semester hour of laboratory credit, except organic courses (12 and 14), for which the fee is \$3.50 per semester hour. A breakage deposit of \$6.00 is required of each student for each course, which is returned, minus charges.

CHEMISTRY COURSES REQUIRED IN THE VARIOUS CURRICULA

PHARMACY.

Ph. G. 101, 102, 103, 111, 112, 105, 106.

Ph. C. The above and 3, 4, 10, and electives.

ENGINEERING. 1, 2, 20.

PRE-MEDICAL. 1, 2, 7, 8, 11, 12.

HOME ECONOMICS. Two-year course: 1, 2. Four-year course: 11, 12, 15, 16. Food specialists: 7, 8, 10.

CHEMICAL ENGINEERING. 1, 2, 3, 4, 5, 6, 20, 11, 12, 18, 19, 10¹, 10², 21, and electives.

B. S. IN CHEMISTRY. 1, 2, 3, 4, 5, 6, 11, 12, 10, 18, 21, 23 and electives. Electives suggested for Liberal Arts: 1st year, 1, 2; 2d year, 11, 12, 15, 16. Education students expecting to teach general science or agriculture should take Courses 1 and 2.

DESCRIPTION OF CHEMISTRY COURSES

1a, b. GENERAL AND INORGANIC CHEMISTRY. 3 hours, throughout the year.

Required of all pre-medical students, and first year students of engineering and home economics. Elective to liberal arts students. Course 2 must be taken with Course 1. Total credits Courses 1 and 2, 10 hours.

2a, b. GENERAL AND INORGANIC CHEMISTRY LABORATORY. 2 hours, throughout the year.

Concurrent with Course 1. The work during the first semester (2a) will include general experimentation and a study of the non-metallic elements

and their compounds. In the second semester (2b) qualitative analysis given. Labs., 2, 3 hours each.

101a, b. GENERAL AND INORGANIC CHEMISTRY. 3 hours, throughout the year.

This course is especially for pharmacy students. Course 102 must be taken with 101. Total credits, Courses 101 and 102, 10 hours.

102a, b. GENERAL AND INORGANIC CHEMISTRY LABORATORY. 2 hours, throughout the year.

Concurrent with Course 101. For pharmacy students. First semester general experimentation. Second semester, qualitative analysis. Labs., 2, 3 hours each.

103. QUALITATIVE ANALYSIS. 1 hour, second semester.

Lectures and recitations to accompany Course 102b. For pharmacy students.

3. ADVANCED INORGANIC CHEMISTRY. 2 hours, first semester.

Accompanying advanced work in qualitative analysis (Course 4), this course reviews and amplifies the foundation principles of chemical action. Required of all chemical engineering students, and candidates for B. S. in chemistry and for Ph. C. Prerequisite: Courses 1 and 2.

4. ADVANCED QUALITATIVE ANALYSIS AND MINERALOGY. 2 hours, first semester.

Concurrent with Course 3. Required of students as in Course 3, with the same prerequisites. Labs., 2, 3 hours each.

5. QUANTITATIVE CHEMISTRY. 2 hours, second semester.

Lectures to accompany Course 6. A discussion of chemical equivalence, with extended practice in chemical calculations in the whole field of chemistry, and of analytical methods and technique. Required of all chemical engineering students, and candidates for B. S. in chemistry. Prerequisites: Courses 1 and 2.

6. QUANTITATIVE ANALYSIS LABORATORY. 3 hours, second semester.

Elementary volumetric and gravimetric analysis, including the preparation of standard solutions, and the analysis of a series of materials of unknown composition. Required of students as in Course 5, with the same prerequisites. Labs., 3, 3 hours each.

105. PHARMACEUTICAL QUANTITATIVE CHEMISTRY. 2 hours, second semester.

Lectures to accompany Course 106. Chemical calculations as applied to pharmacy, discussion of analytical methods, and of the assay of drugs. Required of Senior pharmacy students. Prerequisite: Courses 101 and 102 complete.

106. PHARMACEUTICAL QUANTITATIVE ANALYSIS LABORATORY. 3 hours, second semester.

Volumetric and gravimetric analysis, including the preparation of standard solutions, and the analysis of forty or more chemicals, crude drugs and pharmaceutical preparations. Some work is also given on the testing of water, milk, and urine. Required of Senior pharmacy students. Labs., 3, 3 hours each.

7. QUANTITATIVE CHEMISTRY. Short course, 1 hour, second semester.

Class work to accompany Course 8. A brief discussion of quantitative methods and technique, and of chemical calculations. For pre-medical, pre-dental, home economics and other students, not specializing in chemistry or pharmacy. Prerequisite: Courses 1 and 2.

8. QUANTITATIVE ANALYSIS LABORATORY. Short course. 1 hour or 2 hours may be elected, second semester.

Elementary volumetric analysis, including the preparation of standard

solutions, and practice analyses. For the same groups and with the same prerequisites as Course 7. Labs., 1 or 2 as elected, 3 hours each.

10. SPECIAL QUANTITATIVE ANALYSIS.

Classes in the courses indicated below will be organized as the demand requires. Each course covers one semester only. Laboratories, 2 per week, 3 hours each. Credit for each course, 2 hours. Courses 5 and 6 are prerequisites unless otherwise specified.

10¹. Water Analysis.

10². Gas and Fuel Analysis.

10³. Analysis of Iron, Steel and Alloys.

10⁴. Food Analysis.

10⁵. Organic Analysis.

10⁶. Biochemical Analysis.

11. ORGANIC CHEMISTRY. 4 hours, first semester.

The aliphatic and aromatic series of carbon compounds are studied, with discussions of structural relations, commercial preparation and syntheses, uses, and physiological importance of numerous organic substances. Required of all pre-medical students, those specializing in chemistry, students of chemical engineering and 4-year home economics students. Prerequisites: Courses 1 and 2.

12. ORGANIC SYNTHESIS. 2 hours, first semester.

A laboratory course concurrent with 11. Required of students as in Course 11, with the same prerequisites. Labs., 2, 3 hours each.

111. ORGANIC CHEMISTRY for pharmacy students, 4 hours, first semester.

This course given in the College of Pharmacy.

112. ORGANIC CHEMISTRY LABORATORY for Pharmacy students, 2 hours, first semester.

Concurrent with 111. Given in the College of Pharmacy. Liberal Arts credit for 6 hours may be given for 111 and 112.

13a, b. ADVANCED ORGANIC CHEMISTRY. 3 hours, throughout the year.

An advanced course for students specializing in chemistry, or for graduate students. Concurrent with Course 14. Prerequisites: Courses 11 and 12. Credit may be given for a single semester.

14a, b. ADVANCED ORGANIC SYNTHESIS. 2 hours, through the year.

Credit may be given for a single semester, and without Course 13. Labs., 2, 3 hours each.

15. CHEMISTRY OF NUTRITION AND OF FOOD PRODUCTS. 3 hours, second semester.

A study of the chemical processes of digestion and metabolism, and of the chemical requirements of the human body, followed by a survey of food products, their composition, processes of manufacture, preservation and adulteration from the commercial standpoint rather than from the domestic. Required of 4-year home economics students, elective to those specializing in chemistry and to others. Prerequisite: Courses 11 and 12. Students taking this course may take either Course 16 or 10⁴ as concurrent laboratory work.

16. FOOD PRODUCTS LABORATORY. 2 hours, second semester.

Experiments on digestion processes, composition of food products, and detection of adulterants. Inspection trips to food manufacturing plants take up a number of the laboratory periods. Prerequisites: Courses 11 and 12.

18a, b. INDUSTRIAL CHEMISTRY. 3 hours, throughout the year.

A review of the principal chemical industries, including the source and chemistry of raw materials, processes of manufacture, utilization of by-

products, recoveries, chemical requirements in finished products, and chemical control of manufacturing. Required of chemical engineering and B. S. in chemistry students, elective to others. Prerequisites: Courses 1, 2, 5, 6, 11, and 12.

19a, b. **CHEMICAL ENGINEERING.** 4 hours, throughout the year.

A study of the processes employed in chemical manufacturing, the types of machinery and equipment employed, materials of construction, and design of pieces, units, and plants. The work of the student is done partly in class room, partly in the shops of the University working with small-scale equipment, partly in manufacturing plants in the city of Des Moines.

20. **CHEMICAL TECHNOLOGY.** 3 hours, first semester.

A course covering chemical problems commonly met with in industries of all kinds, such as those relating to metals, fuels, boiler waters, lubricants, paints, corrosion of structural materials, etc. Required of all engineering students. Prerequisites: Courses 1 and 2.

21. **PHYSICAL CHEMISTRY.** 3 hours, first semester.

An elementary course, required of candidates for B. S. in chemistry and chemical engineering students. Elective to others. Prerequisites: Courses 1, 2, 11, 12, and 5 or 7.

22. **PHYSICAL CHEMISTRY LABORATORY.** 2 hours, first semester.
(Not given in 1923-24.)

23. **HISTORY OF CHEMISTRY.** 2 hours, second semester.

Required of candidates for B. S. in chemistry.

25. **BIOCHEMISTRY.** 3 hours, first semester.

A general course in the chemistry of protoplasm, the cell, and plant and animal tissues and their metabolism. Prerequisites: Courses 11 and 12. Courses 15 and 16 are advised before this course.

26. **BIOCHEMISTRY LABORATORY.** 2 hours, first semester.

A laboratory course concurrent with Course 25. Labs., 2, 3 hours each.

DRAMATIC ART

(See School of Fine Arts.)

DRAWING

(See School of Fine Arts.)

ECONOMICS AND BUSINESS ADMINISTRATION

For a major in Economics and Business Administration, twenty semester hours are required in addition to Courses 1 and 2.

For a minor in Economics and Business Administration, ten semester hours are required in addition to Courses 1 and 2.

FOR SOPHOMORES

1. **ECONOMIC RESOURCES.** 3 hours, first semester.

This course is intended for beginners in the study of economics. Open only to Freshmen and Sophomores. Required of students who major or minor in Economics and Business Administration.

2. **PRINCIPLES OF ECONOMICS.** 3 hours, second semester.

Open to Sophomores. Required of A. B. students and of students who major or minor in Economics and Business Administration.

3. **PRINCIPLES OF ACCOUNTING.** 3 hours, second semester.

Required of Sophomores who major or minor in Economics and Business Administration.

FOR JUNIORS AND SENIORS

4. BUSINESS ORGANIZATION AND MANAGEMENT. 3 hours, first semester.
5. MONEY AND BANKING. 3 hours, second semester.
Given in alternate years.
6. CORPORATION FINANCE. 3 hours, second semester.
Given in alternate years. Not offered 1923-1924.
7. HISTORY OF INDUSTRY AND COMMERCE. 2 hours, first semester.
Given in alternate years.
8. TRANSPORTATION. 2 hours, first semester.
Given in alternate years. Not offered 1923-1924.
9. INSURANCE. 2 hours, second semester.
Given in alternate years.
10. TAXATION AND PUBLIC FINANCE. 2 hours, second semester.
Given in alternate years. Not offered in 1923-1924.
11. BUSINESS LAW. 3 hours, first semester.
Given in alternate years.
12. MARKETING. 3 hours, first semester.
Given in alternate years. Not offered in 1923-1924.
13. ADVANCED ECONOMICS. 3 hours, second semester.
Given in alternate years.
14. ADVANCED ACCOUNTING. 3 hours, second semester.
Given in alternate years. Not offered in 1923-1924.
15. ADVERTISING. 2 hours, first semester.
Given in alternate years.
16. PRINCIPLES OF SALESMANSHIP. 2 hours, first semester.
Given in alternate years. Not offered in 1923-1924.
17. LABOR LEGISLATION AND LABOR PROBLEMS. 2 hours, second semester.
Given in alternate years.
18. STATISTICS. 2 hours, second semester.
Given in alternate years. Not offered in 1923-1924.

EDUCATION

(See College of Education.)

ENGLISH

A minimum of ten semester hours in English is required of students in the College of Liberal Arts during the Freshman and Sophomore years. English 1a, b, 6 semester hours, is required of all Freshmen. English 4a, b or 5a, b, 4 semester hours, is required of all Liberal Arts Sophomores. This course is prerequisite to all other courses in English literature. Additional courses in English composition may be required at the discretion of the Department, of students whose composition is habitually poor.

Twenty semester hours of elective work are required of students whose major subject is English. (Elective courses are courses not required for graduation.)

All students electing English as a major subject must take either English 6 or 7.

Ten semester hours of elective work are required of students whose minor subject is English.

The Department reserves the right to require students to discontinue courses for which they have not had sufficient preparation and to substitute therefor more elementary courses, either with or without credit.

1a, b. FRESHMAN ENGLISH. 3 hours, throughout the year.

The theory and practice of English composition. Required of all Freshmen.

2a. EXPOSITION. 2 hours, first semester.

The theory and practice of expository writing. Prerequisites: Courses 1a, b.

2b. NARRATION AND DESCRIPTION. 2 hours, second semester.

A study of narrative and descriptive composition. Prerequisites: Courses 1a, b.

3. ARGUMENTATION AND DEBATE. 3 hours, first semester.

A study of the principles and practice of argumentation and debate, both formal and informal. Prerequisites: Courses 1a, b.

4a, b. CLASSICS OF WORLD LITERATURE. 2 hours, throughout the year.

This course may be taken instead of 5a, b, with the consent of the head of the Department.

5a, b. CHARACTERISTICS AND FORMS OF LITERATURE. 2 hours, throughout the year.

Topics: Literature as an art; the elements of subject matter; the elements of form. The Epic, the Lyric, the Drama, the Romance, the Novel, the Essays. Prerequisite to all other courses in English Literature. Required of Sophomores.

6. CHAUCER. 3 hours, second semester.

Representative selections from Chaucer's works will be read and discussed. No knowledge of Middle English is required. Junior and Senior elective. (Given in alternate years.)

7. EARLY ENGLISH LITERATURE. 3 hours, second semester.

A study of the most important literary productions in England before the Elizabethan Age. No knowledge of Old or Middle English is required. Junior and Senior elective. (Given in alternate years. Not given in 1923-'24.)

8. ELIZABETHAN POETRY. 2 hours, second semester.

A study of the non-dramatic poetry of the Elizabethan Age. Junior and Senior elective. (Given in alternate years.)

9. ELIZABETHAN PROSE. 2 hours, second semester.

This course is the complement of Course 8. Junior and Senior elective. (Given in alternate years. Not given in 1923-'24.)

10a, b. SHAKESPEARE. 2 hours, throughout the year.

Rapid reading of important plays.

11. ENGLISH AND AMERICAN ESSAYISTS. 2 hours, first semester.

A study of the essay as a type of literature from its origin to the present time.

12. CONTEMPORARY ESSAYISTS AND HUMORISTS. 3 hours, first semester.

13. ROMANTIC POETS, 1780-1830. 3 hours, second semester.

14a. ENGLISH LITERATURE OF NINETEENTH CENTURY FROM 1830-1890. 3 hours, first semester.

14b. CONTEMPORARY ENGLISH POETRY, 1890-1920. 3 hours, second semester.

15. TENNYSON. 3 hours, first semester.

Reading of all the important poems. Tennyson as a poet. The characteristic qualities of his verse; his relation to the thought movement of his times.

16. BROWNING. 3 hours, second semester.

Especial attention is given to the interpretive reading of the Ring and the Book; style; use of dramatic monologue.

17a. NINETEENTH CENTURY FICTION. 3 hours, first semester.

The course will deal chiefly with the most important writers of the nineteenth century.

17b. CONTEMPORARY FICTION. 3 hours, second semester.

18. CONTEMPORARY DRAMA. 3 hours.

19a, b. AMERICAN LITERATURE. 2 hours, throughout the year.

(Given in alternate years. Not given in 1923-'24.)

20a, b. THE TEACHING OF HIGH SCHOOL ENGLISH. 2 hours, throughout the year.

(Given in alternate years.)

FRENCH

(See Romance Languages.)

GEOLOGY

1. STRUCTURAL GEOLOGY. 3 hours, first semester.

This course deals with structural geology; the causes and effects involved in the continuous changes that have taken place in the earth's crust from the beginning. Prerequisite: High School Physics.

2. HISTORICAL GEOLOGY. 3 hours, second semester.

A continuation of Course 1, but dealing with the origin, development and times of the various types of vegetable and animal life, including man, from the beginning to the present time. Prerequisite: Course 1.

GERMAN

1a, b. BEGINNING GERMAN. 5 hours, throughout the year.

Pronunciation, grammar, reading of idiomatic German, composition, and conversation. In this course the object is chiefly the reading of German prose.

GREEK AND LATIN

GREEK

Twenty semester hours in addition to Greek 1 will be required for a major in Greek.

Twelve semester hours in addition to Greek 1 will be required for a minor in Greek.

Six hours of required major work in Latin may be substituted for six of the twenty hours of required Greek major work.

1a, b. ELEMENTS OF GREEK. 5 hours, throughout the year.

This course is for those who begin the study of Greek in college. Careful attention is given to inflections, principles of syntax, vocabulary, facility in reading and writing easy sentences in Greek. First year book: Xenophon's Anabasis Book I.

2. XENOPHON. 3 hours, first semester.

Three additional books of the Anabasis are read, with selections from the Memorabilia.

3. LYSIAS—SELECTED ORATIONS. 3 hours, second semester.

Study of Greek legal procedure and Greek life.

4. HOMER. 3 hours, throughout the year.

Several books of the Iliad or Odyssey are read. Attention is given to Mythology and Homeric Life.

5. PLATO. 3 hours, first semester.

Apology and Crito, with selections from Xenophon's Memorabilia. Study of the life and teachings of Socrates.

6. TRAGEDY. 3 hours, second semester.

Selected plays. Rise and development of Greek tragedy. Study of the Greek theatre.

7. DEMOSTHENES ON THE CROWN. 3 hours, first semester.

Study of Athenian political life and the development of Greek oratory.

8. THE GREEK NEW TESTAMENT. 3 hours, second semester.

Selections from the Acts of the Apostles and the Epistles to the Corinthians. This course is intended to suit the needs of those who desire a working knowledge of the New Testament. Special attention is paid to the grammar and the forms of the text. Burton's "New Testament Modes and Tenses" is required in connection with this study. Open to Seniors.

A class in Greek New Testament meets once a week throughout the year if called for.

9. GREEK LITERATURE. 3 hours, first semester.

The object of this course is to secure for the students untrained in Greek some acquaintance with ancient Greek literature, and to trace its influence upon modern literature, thought and civilization. Attention is given to Greek life and customs. No collateral reading is required in any language other than English.

LATIN

Twenty semester hours in addition to Latin 1 and 2 will be required for a major in Latin.

Ten semester hours in addition to Latin 1 and 2 will be required for a minor in Latin.

Students planning to major in Latin are advised to take Courses 1, 2, and 3 in Greek.

Courses 2 and 3 in Greek may be substituted for six hours of the required Latin major work.

1a, b. ELEMENTARY LATIN. 5 hours, throughout the year.

First year book, selections from Caesar's Gallic War, and prose composition.

2a, b. CICERO. 3 hours, throughout the year.

Selected orations of Cicero, prose composition, drill in forms and syntax.

2sp. CAESAR. 2 hours, first semester.

For those who need more Caesar than is offered in Course 1a, b.

3a, b. VIRGIL. 3 hours, throughout the year.

The Aeneid, Books I-VI, mythology, and assigned topics on selected subjects.

4. CICERO. 3 hours, first semester.

De Amicitia and De Senectute with other selections.

5. LIVY. 3 hours, second semester.

Selections from Books I and XXI. Study of the Roman and Carthaginian military systems and naval policies of both nations.

6. LATIN PROSE COMPOSITION. 2 hours, first semester.

Systematic review of Latin grammar.

7a, b. HORACE AND OVID. 2 hours, throughout the year.

Odes and Epodes of Horace, and selections from Ovid.

8a, b. TACITUS. 3 hours, throughout the year.

Agricola and Germania. Social and political conditions under the early empire.

9a, b. PLAUTUS AND TERENCE. 2 hours, throughout the year.

Several plays will be read, study of the origin and development of the Roman drama.

10. TEACHER'S TRAINING COURSE. 2 hours, second semester.

This course is for Seniors who are taking major work in Latin.

HISTORY AND POLITICAL SCIENCE**HISTORY**

Twenty hours are required for a major in History, in addition to six hours of required consecutive History. Ten hours are required for a minor in History, in addition to six hours of required consecutive History.

1a, b. **MEDIAEVAL AND MODERN HISTORY.** 3 hours, throughout the year.

(1a.) Mediaeval History (376-1500). The first semester of European history will start with the migration of the nations and close with the Renaissance. (1b.) Modern History (1500-1900). The second semester will be an outline course beginning with the Reformation, taking up the Age of Absolute Monarchies, The French Revolution and Napoleonic Era, and the Nineteenth Century.

Required of all Freshmen, unless American History is substituted in the Sophomore year.

2a, b. **AMERICAN HISTORY.** 3 hours, throughout the year.

(2a.) The first semester covers the period from the beginning to the time of Andrew Jackson. (2b.) The second semester takes up the period from Andrew Jackson to our own day. Several text books are used and the student will do extra reading in the library and write a paper each semester.

Required of Sophomores who have not taken Course 1a, b.

3. **AMERICAN CONSTITUTIONAL HISTORY.** 2 hours, first semester.

It is desirable that a person shall have completed a course of American political history, such as 2 above, as preliminary study. The class will meet Tuesdays and Thursdays to dovetail with the regular course in American History.

4. **AMERICAN ECONOMIC HISTORY.** 2 hours, second semester.

This course will follow 3 above, but a student is free to take either one or both as he pleases.

5. **ECONOMIC HISTORY OF MODERN EUROPE.** 3 hours, first semester.

This course will be based on Ogg's excellent outline covering this subject and library readings, and a paper will be assigned. Open to Sophomores and upper classmen.

6a, b. **HISTORY OF ENGLAND.** 2 hours, throughout the year.

(6a.) A study of the development of England from the earliest times to the modern age.

(6b.) The second semester covers modern England, with special attention to the spread of the British Empire. Either semester may be taken without the other, but the second semester will not be open to Freshmen unless the first semester has been taken.

7. **RECENT HISTORY.** 3 hours, second semester.

This course will study the causes and results of the World War. A recently published text book will be used in this course.

8a, b. **CURRENT HISTORY.** 1 hour, throughout the year.

Either semester may be taken without the other.

The following courses will be given according to the demand:

9. **THE FRENCH REVOLUTION AND NAPOLEONIC ERA.** 3 hours.

This course takes up the causes, development, and results of the French Revolution. The Napoleonic Era deals with the Europeanization of the Revolution.

10. HELLENIC HISTORY. 3 hours.

The course is based on Botsford's recent work on the subject and is supplemented by special readings and lectures.

11. ROMAN HISTORY. 3 hours.

Like the preceding course, this is based on a good text and is supplemented by readings and lectures.

12. DIPLOMATIC HISTORY. 3 hours.

This course covers the field of the foreign relations of the United States from the Revolution to the present day.

13. EUROPE IN THE NINETEENTH CENTURY. 3 hours.

An extensive study of Europe since the Treaty of Vienna. The last part of the century, however, will not be touched as it is covered in Course 7.

14. HISTORY OF THE BALKANS. 3 hours.

The disturbed conditions of the last fifteen years in the Balkans have been so closely interwoven with the history of western Europe that a better knowledge of the past history of the Turkish empire and the Balkan states has become imperative. The course will cover the field from the breakdown of the Roman empire to the present day.

15. HISTORY OF SOUTH AMERICA. 3 hours.

The rise to prominence of the A. B. C. nations shows the importance of this much neglected field. Special attention will be given to the leading states and to the period since the revolution against Spain.

POLITICAL SCIENCE

A major or minor may be taken in Social Science, including Sociology, Economics, and Political Science. Twenty hours are required for a major, in addition to the introductory six hours in any two of the three subjects. Ten hours are required for a minor, in addition to the introductory six hours in any two of the three subjects.

1. COMPARATIVE GOVERNMENT. 3 hours, first semester.

Designed to show the various forms of government now in operation comparing them with the American form. Because of the largeness of the field only the most representative forms can be studied.

Open to Freshmen and Sophomores, and will be accepted in lieu of Course 2 for the required work in Political Science.

2. AMERICAN GOVERNMENT. 3 hours, second semester.

This course covers the principles and machinery of the government of the United States. It will be based on a good recent text covering the field and library work will be required.

Required of Juniors and Seniors taking the Bachelor of Arts degree, unless Course 1 or Course 5 has been taken in Freshman or Sophomore year.

3. GOVERNMENT OF AMERICAN CITIES. 2 hours, first semester.

The course is a study of the various forms of city government in the United States. Not open to Freshmen.

4. GOVERNMENT OF EUROPEAN CITIES. 2 hours, second semester.

A course similar to Course 3 based on European forms of city government. Not open to Freshmen.

5. INTRODUCTION TO GOVERNMENT. 3 hours.

The principles involved in the governmental science constitute the subject for study. Open to Freshmen and Sophomores and may be substituted for Course 2 which is otherwise required. Not offered in 1923-1924.

6. INTERNATIONAL LAW. 3 hours.

This takes up the rules and regulations existing between governments commonly known as the Law of Nations. Based on a text book and international cases. Not open to Freshmen and especially intended for Juniors and Seniors. Not offered in 1923-1924.

7. WORLD POLITICS. 5 summer session hours.

This course will deal with conditions in the world today, giving briefly a historical background for each phase. Based on a text and outside readings. Offered during the summer session 1923.

8. STATE AND LOCAL GOVERNMENT. 5 summer session hours.

Designed to acquaint the student with state, city, and rural government in the United States. Offered during the summer session 1923.

HOME ECONOMICS

Home-making has come to be regarded as one of the great professions, in which the large majority of women will engage. There is every reason, therefore, why young women should have an opportunity to elect college courses in preparation for this profession. There are also many young women who wish to prepare themselves for the teaching of Home Economics in our public schools, where the demand is becoming increasingly great.

The Department of Home Economics is intended to meet the needs of these two groups. The following schedule outlines the Home Economics work by years. Students who are planning to teach Home Economics should take six hours of Psychology and fourteen hours of Education if they wish to fulfill the requirements for the first-grade state certificate. For two-year Normal Course, see page 70.

The laboratory fee for each course in sewing and millinery is \$2.25 per credit hour; for each course in cooking, \$6.00 per credit hour, except "Planning and Serving Meals" and "Dietetics," for which the fee is \$5.00 per credit hour.

1. SELECTION AND PREPARATION OF FOOD. 2 hours, second semester.

The chemical composition and uses of foods; the changes effected by heat, cold or fermentation; principles of selection, and combinations. Lect., 1; lab., 1, 3 hours. Prerequisite: Chemistry 1.

2. TEXTILES AND GARMENT MAKING. 2 hours, first semester.

Development of the textile industry; study of the important fibers and materials made from them. The use and care of sewing machines and attachments; making of underwear and cotton dress. Lect., 1; lab., 1, 3 hours.

3. ADVANCED CLOTHING. 2 hours, first semester.

Continuation of Course 2 with special application of the principles of art, economics, and hygiene to the costume. Making of a wool dress and a conservation problem. Lect., 1; lab., 1, 3 hours. Prerequisites: Course 2; Color and Design, 2 hours.

4. HISTORY OF ARCHITECTURE. 2 hours, throughout the year.

5. HOME SANITATION AND ARCHITECTURE. 2 hours, first semester.

Situation, surroundings, and construction of the house; heating, lighting, ventilation, water supply, and drainage; making house plans. Prerequisites: Drawing and Perspective, 2 hours.

6. FOODS. 2 hours, first semester.

Continuation of Course 1. Preservation of foods; economics of the food question; meal service. Lect., 1; lab., 1, 3 hours. Prerequisites: Course 1 and Chemistry 2.

7. HOME DECORATION. 2 hours, second semester.

Study in appreciation and selection of suitable home furnishings. Lect., 1; lab., 1, 3 hours. Prerequisites: Course 5, Art, 6 hours.

8. PLANNING AND SERVING OF MEALS. 2 hours, second semester.

Lect., 1; lab., 1, 3 hours. Prerequisites: Courses 1 and 6.

9. DIETETICS. 3 hours, second semester.

Diet; relation of food to health; influence of age, sex, and occupation on the diet; the relation between the nutritive value and cost of the dietary emphasized. Lect., 1; labs., 2, 3 hours each. Prerequisites: Courses 1 and 6; Physiology and Bacteriology; Chemistry 11a, 12a, 15, 16.

10. DRESS DESIGN. 3 hours, second semester.

Emphasizes the art and ethics of dress. Study of dress from the historic standpoints. A dark silk dress and an afternoon dress or evening dress are made. Lect., 1; labs., 2, 3 hours each. Prerequisites: Courses 2 and 3.

11. HOUSEHOLD ECONOMICS. 2 hours, first semester.

The organization and control of family and personal life through the economic relations of the household. The family income, its expenditure; the budget system; operating expenses, cost of food, clothing; thrift and methods of saving.

12. HOUSEHOLD MANAGEMENT. 3 hours, first semester.

Housekeeping as a business; organization and management; distribution of the income; budgets. Prerequisites: Courses 6, 3, and 5; Economics, 3 hours.

13. HISTORY OF THE HOME ECONOMICS MOVEMENT. 2 hours, first semester.

The development of home economics as a factor in the education of women. Required of all who wish to be recommended to teach.

14. TEACHERS' COURSE. 2 hours, second semester.

The work in different types of institutions; planning of courses. Methods of presenting the work and its correlation with other subjects. Observation and practice teaching. Open only to Seniors.

LATIN

(See Greek and Latin)

MATHEMATICS AND PHYSICS

MATHEMATICS

Twenty semester hours from any courses offered in the Department, except Mathematics 1a, b, and including mechanics, are required for a major in Mathematics.

Twenty semester hours selected from not more than three of the following subjects are required for a minor in Mathematics: astronomy, physics, chemistry, theoretical and applied mechanics, surveying, and education.

Classes in first year Mathematics will be divided at the end of the first few weeks into fast and slow sections. Complete credit will be given in both sections, but the students of greater ability and better preparation are given a more extensive course.

1a, b. FIRST YEAR MATHEMATICS. 5 hours, throughout the year.

1a. Trigonometry: First half semester—plane trigonometry and applications.

Algebra: Second half semester—quadratic equations, systems of equations; variation; progressions; permutations and combinations; binomial theorem; theory of equations, theory of logarithms; exponential equations.

This course will be repeated the second semester if demanded.

1b. Algebra and Analytical Geometry: Continuation of algebra in Course 1a the first four weeks. The remaining time is given to a general course in analytical geometry of two and three dimensions.

2a, b. CALCULUS. 5 hours, throughout the year.

A general course in calculus with special reference to the requirements of the Engineering students. A brief course in differential equations is given in conclusion. Prerequisite: Analytic Geometry.

3a, b. ADVANCED CALCULUS AND DIFFERENTIAL EQUATIONS. 3 hours, throughout the year.

Ordinary and partial differential equations; special topics of calculus. Prerequisite: Courses 2a and 2b.

PHYSICS

Twenty semester hours from courses offered in the Department and mechanics, electricity and magnetism, electrical measurement, or thermodynamics in the College of Engineering are required for a major in Physics.

Twenty semester hours in mathematics, astronomy, chemistry, education, psychology, and geology are required for a minor in Physics.

The laboratory fee for each course in physics is \$3.00 per credit hour; a breakage deposit of \$6.00 is required of each student for each course.

Physics 1a, b is recommended to students not specializing in mathematics, chemistry, or engineering.

1a, b. COLLEGE PHYSICS. 5 hours, throughout the year.

First semester—mechanics, wave motion, heat, and sound. Second semester—electricity, magnetism, and light. A course for general information. May be taken without the mathematics of the Freshman year. Lectures with class-room demonstrations, recitations, written exercises, and laboratory.

2a, b. GENERAL PHYSICS. 5 hours, throughout the year.

First semester—mechanics, wave motion, and heat. Second semester—electricity, magnetism, sound, and light. Prerequisite: Freshman mathematics. Calculus is not required but will be helpful if taken at the same time. Lectures, recitations, problem work, and laboratory.

3a, b. RADIO. 2 hours, throughout the year.

A mathematical and physical study of the principles of radio telegraphy and telephony; experimental work with radio equipment. While not absolutely required a good foundation in physics and mathematics is desirable.

4. PHYSICS OF MUSIC. 2 hours, second semester.

A study of music from the physical standpoint, including characteristics of sound, method of production in different instruments, resonance, etc. Intended primarily for music students. Lectures and laboratory.

5a, b. PHYSICAL MEASUREMENTS. 1 hour, throughout the year.

First semester—mechanics and heat. Second semester—electricity and magnetism. This is an advanced laboratory course. Semesters may be taken separately.

MUSIC

(See under School of Fine Arts.)

PAINTING

(See under School of Fine Arts.)

PHILOSOPHY AND PSYCHOLOGY**PHILOSOPHY**

1. HISTORY OF PHILOSOPHY. 3 hours, first semester.

An introductory course beginning with philosophical speculations among the Greeks and tracing the development of thought through ancient and modern times, with special attention to the modern philosophers and to recent philosophical theories.

2. LOGIC. 2 hours, first semester.

The elements of deductive and inductive logic will be studied as an introduction to the general subject of philosophy. It will be considered not only as a science, but also as an art. The purpose is to render the student familiar with logical principles, and to give such practice in detecting fallacies as will enable him to think correctly and to recognize and refute fallacious arguments.

3. ETHICS. 3 hours, second semester.

The method of dealing with this subject is the historical. The moral life is traced in its development among different races and peoples. Thus the student gets a better view of the significance of ethics and a surer basis for the study of the principles and theory of morals.

4. PHILOSOPHICAL PROBLEMS. 2 hours, second semester.

The subject is approached from the point of view of biology and psychology. Philsocial problems will be studied in relation to Sociology, Ethics, and Religion.

PSYCHOLOGY

1. GENERAL PSYCHOLOGY. 3 hours, first semester.

A thorough course for upper classmen dealing with more advanced phases of psychology and its application. Not open to Freshmen.

2. APPLIED PSYCHOLOGY. 3 hours, second semester.

This course represents an attempt to formulate psychological principles in terms of conduct or behavior. The "functional" point of view in psychology offers a helpful perspective upon problems in education, industry, law, medicine and religion. Not open to Freshmen.

21. ELEMENTARY PSYCHOLOGY. 3 hours, first semester.

See College of Education.

22. EDUCATIONAL PSYCHOLOGY. 3 hours, second semester.

See College of Education.

23. CHILD PSYCHOLOGY. 3 hours, second semester.

See College of Education.

PHYSICAL EDUCATION AND ATHLETICS

Physical education is required of Freshmen and Sophomores. The work consists partly of formal gymnastics and partly of games. Students especially interested in athletics may count participation in the major sports as the required work in physical training for the respective semesters. Credit on the physical training requirement will also be given for tennis, wrestling, soccer, volley ball, etc., when properly scheduled and supervised.

PHYSICAL EDUCATION FOR MEN

REQUIRED TRAINING

1a, b. GYMNASTICS AND SPORTS. 1 hour, throughout the year.

Beginning with elementary floor work, the course will continue to more advanced floor work and group gymnastics. Volley ball, basket ball, indoor base ball, and other sports will be played in season. Two periods per week gymnasium work and one period Freshman lectures during the first semester, and three periods per week gymnasium work second semester. Required of Freshman men.

2a, b. ADVANCED GYMNASTICS AND SPORTS. 1 hour, throughout the year.

A continuation of the gymnastic work given in the Freshman year. Tumbling, wrestling, and the nomenclature of gymnasium work will be stressed for the benefit of men who expect to teach gymnastics. Three periods a week. Required of Sophomore men.

3a, b. ANATOMY AND PHYSIOLOGY. 1 hour, throughout the year.

A study of the structure and functions of the human body, with special reference to health. Text-book and lectures. Required of all Freshman men who are unable to take Course 1a, b.

4a, b. PERSONAL HYGIENE. 1 hour, throughout the year.

A study of the laws of personal health. Text-book and lectures. Required of all Sophomore men who are unable to take Course 2a, b.

ATHLETIC COACHING

The following courses are designed especially for young men who are preparing to act as athletic directors and coaches in high schools. Each lecture course is paralleled by practice work which serves as laboratory training. For the more advanced students this training includes the actual handling of squads, officiating at practice games, and other athletic activities, under the supervision of the athletic director. The laboratory practice fulfills the physical education requirements of the Freshman and Sophomore years listed above.

5a. FOOTBALL AND BASKETBALL. 1 hour, first semester.

The lectures stress the fundamental elements in athletic theory, and are supplemented by not less than six hours per week of practice on the playing field. The basketball part of the course is arranged to begin and end with the actual playing season. In order to secure credit for this course, 6a must be taken at the same time.

6a. FOOTBALL AND BASKETBALL PRACTICE. First semester.

A laboratory or practice course accompanying 5a. Six hours of field work per week. Freshmen may substitute this course for course 1a above for 1 hour required physical education credit.

5b. TRACK AND BASEBALL. 1 hour, second semester.

Lecture and laboratory course for track and baseball, in continuation of Course 5a. In order to secure credit for this course, 6b must be taken at the same time.

6b. TRACK AND BASEBALL PRACTICE. Second semester.

A laboratory course accompanying 5b. Six hours of field work per week. Freshmen may substitute this course for Course 1b for 1 hour required physical education credit.

7a. FOOTBALL AND BASKETBALL COACHING. 1 hour, first semester.

Football and basketball theory and practice are taken up in a more advanced way, with 1 lecture and 6 hours of field work per week. Consideration is given to Anatomy and Hygiene with a view to personal

health and emergency treatment. In order to secure credit for this course, 8a must be taken at the same time.

8a. COACHING PRACTICE. Second semester.

A laboratory or practice course in coaching accompanying Course 7a. Six hours of field work per week. Sophomores may substitute this course for Course 2a for 1 hour required physical education credit.

7b. ADMINISTRATION OF ATHLETICS. 1 hour, second semester.

This course features the promotion of wholesome athletic interests, and considers the administration of athletic activities. The laboratory practice includes a course in gymnastic training, 1 lecture and 6 hours of training per week. In order to secure credit for this course, 8b must be taken at the same time.

8b. COACHING PRACTICE. Second semester.

A laboratory course in coaching accompanying Course 7b. Six hours of field work per week. Sophomores may substitute this course for Course 2b for 1 hour required physical education credit.

PHYSICAL EDUCATION FOR WOMEN

In the interests of health, physical training is required of all women throughout the Freshman and Sophomore years, three periods per week each semester for one hour of physical education credit. The training constitutes two hours a week of gymnasium floor work and one hour of elective work.

The floor work includes tactics, calisthenics, apparatus work, games, and folk dances. The elective work includes rhythm, sports in season (volleyball, soccer, basketball, baseball, track), first aid, and camp fire guardianship.

1a, b. GYMNASIUM FLOOR WORK. 1 hour, throughout the year.

Three periods per week, two of which are gymnasium floor work. The third period is Freshman lectures for the first semester, including lectures on personal hygiene, and elective work in the second semester. Required of Freshman women.

2a, b. ADVANCED GYMNASIUM FLOOR WORK. 1 hour, throughout the year.

The course includes two periods per week of advanced gymnasium floor work and one period per week of elective work. Required of Sophomore women.

3a, b. CORRECTIVE HYGIENE. 1 hour, throughout the year.

A study of hygiene, both personal and general, and its application to every day life. Individual attention is given to all who need corrective exercises. Required of Freshman women who are excused by doctor's certificate from active work in physical training.

4a, b. CORRECTIVE GYMNASIUM WORK. 1 hour, throughout the year.

Intended to meet the needs of women who should have special work in physical training. Required of Sophomore women who are excused by doctor's certificate from regular gymnasium practice.

5. PLAYGROUND SUPERVISION. 2 hours, second semester.

A lecture, text book, and laboratory course dealing with the principles and practice of playground supervision. The practice teaching will be gained on the playgrounds of the city of Des Moines. Intended especially for public school teachers and those intending to engage in community service work. Elective.

The Women's Athletic Association fosters such activities as sings for women, hiking, horseback riding, swimming, boating, tennis, gymnasium demonstrations, tournaments in volleyball, basketball, baseball, and tennis, an annual track meet, and an annual spring festival. Athletic points,

chevrons, and letters are awarded to women upon conditions fixed by the Association.

PHYSICS

(See Mathematics and Physics.)

POLITICAL SCIENCE

(See History and Political Science.)

PSYCHOLOGY

(See Philosophy and Psychology.)

ROMANCE LANGUAGES

FRENCH

Twenty semester hours, exclusive of Beginning French, are required for a major in French. Ten semester hours, exclusive of Beginning French, are required for a minor in French.

1a, b. BEGINNING FRENCH. 5 hours, throughout the year.

Pronunciation, grammar, reading of modern French, composition and conversation. Students who have completed one year of high school French may be admitted to the second semester of this course for partial credit upon the recommendation of the instructor.

2a, b. SECOND-YEAR FRENCH. 3 hours, throughout year.

Course 2 is a continuation of Course 1. Reading of texts selected from Nineteenth century authors. Grammar in connection with reading. Conversation daily. Students desiring more thorough knowledge of grammar should take Course 3 in connection with this course. Prerequisite: Course 1, or two years of high school French. Either semester may be taken without the other.

3a, b. FRENCH COMPOSITION AND CONVERSATION. 2 hours, throughout the year.

Thorough review of grammar and of pronunciation; daily practice in the writing of French and in conversation. This course is supplementary to Course 2. Prerequisite: Course 1. Either semester may be taken without the other.

4. NINETEENTH CENTURY FICTION AND DRAMA. 3 hours, first semester.

A reading course; selections from representative authors. Prerequisites: Courses 1 and 2.

5. THE COMEDY OF THE 17TH AND 18TH CENTURIES. 3 hours, second semester.

Moliere and his successors. A reading course. Prerequisites: Courses 1 and 2.

6. THE CLASSICAL PERIOD; THE DRAMA. 3 hours, first semester.

Corneille, Racine, Moliere. A survey course. Prerequisites: Courses 1 and 2.

7. THE ROMANTIC PERIOD. 3 hours, second semester.

The Evolution of the novel in the 19th century; its sources and influences. Chateaubriand, Sand, Balzac, Flaubert, Zola, France. A survey course. Prerequisites: Courses 1 and 2.

(Courses 6 and 7 will be given in alternate years with Courses 4 and 5. Courses 6 and 7 will not be offered in 1923-1924.)

SPANISH

1. BEGINNING SPANISH. 5 hours, throughout the year.

Principles of grammar; oral and written exercises; conversation; reading of Spanish. Students who have completed one year of high school Spanish may be admitted to the second semester of this course for partial credit upon the recommendation of the instructor.

2. SECOND-YEAR SPANISH. 3 hours, throughout the year.

Review of grammar; composition; conversation; reading of modern Spanish literature. Prerequisites: Course 1, or two years of high school Spanish.

SOCIOLOGY

A major or minor may be taken in Social Science, including Sociology, Economics, and Political Science. Twenty hours are required for a major, in addition to an introductory six hours in any two of the three subjects. Ten hours are required for a minor, in addition to an introductory six hours in any two of the three subjects.

1. INTRODUCTION TO SOCIOLOGY. 3 hours, first semester.

In this course the student should gain a true conception of the nature of society and the scope of sociology. This aim will be accomplished in three ways: (a) by giving some attention to the history of the science and its place in the group of social sciences; (b) by a discussion of the structure of society, the functions of social institutions, and the underlying sociological principles and laws; and (c) by some scientific work on the part of the student in the way of first-hand study of a concrete social group. Required of Sophomores.

2. THE FAMILY. 3 hours, second semester.

A study of the origin, historical development, and social significance of the family, together with a consideration of related modern social problems. Lectures, readings, investigations, and theses. Elective. Prerequisite: Course 1. Given in alternate years; not offered 1923-1924.

3. MODERN SOCIAL PROBLEMS. 3 hours, second semester.

A discussion of some of the more important problems of modern society, exclusive of those most directly connected with the family and with pauperism, which are treated in other courses. The course considers industrial problems, immigration, recreation and amusements, problems of the modern city, problems of the rural community, the socially abnormal classes, and social betterment movements and agencies. Elective. Prerequisite: Course 1. Given in alternate years.

4. POVERTY AND PAUPERISM. 2 hours, second semester.

A study of the causes and extent of poverty and pauperism, together with relief measures, agencies, and methods. Elective. Prerequisite: Course 1.

SPANISH

(See Romance Languages.)

THE COLLEGE OF EDUCATION

GENERAL STATEMENT

The purpose of the College of Education is to train socially-minded and efficient teachers. Not only is the theory of education stressed, but observation and practice teaching are required in most courses and definitely provided for in all. Those students who are preparing to teach in high school will do their observing and practice teaching in the University Institute, which serves as the University experimental high school, while those who are preparing for the grades will receive these advantages in the Des Moines city schools.

A first grade state certificate is granted by the State Board of Educational Examiners to graduates of the four-year courses in the College of Education; and a third grade state certificate, which becomes a second grade certificate after two years' successful teaching experience, is granted to graduates of the two-year courses. (Exception: The uniform county certificate is granted for the supervisor's normal course in art.)

A Teachers' Placement Bureau is maintained in connection with the College of Education. No commission is charged, and yet a thorough canvass of the best positions in the state is made in behalf of the students desiring positions.

REQUIREMENTS FOR ADMISSION

On the basis of the general requirements for admission to the University (see pages 30-33), candidates for admission to the College of Education must present 15 units of preparatory work, as follows:

Required:

| | |
|----------------------|---------|
| English | 3 units |
| Mathematics-- | |
| Algebra | 1 unit |
| Plane Geometry | 1 unit |
| History | 1 unit |
| Science | 1 unit |

7 units

Elective:

Eight units from the list found on pages 31-33; at least four units of which shall be from the five principal groups: English, foreign language, mathematics, natural sciences, and the history-civics-economics group.

DEGREES, DIPLOMAS, AND COURSES

The College of Education offers four four-year courses, one three-year course, and six two-year courses. The bachelor's degree is granted to candidates completing the four-year course, and a diploma to those completing the three-year course or any of the two-year courses.

- I. Courses requiring four years for completion, and leading to the bachelor's degree and a first grade state certificate:
- (a) General Course, leading to the degree, Bachelor of Science in Education.
 - (b) Supervisor's Course in Education, leading to the degree, Bachelor of Science in School Supervision.
 - (c) Course in Manual and Industrial Arts, leading to the degree, Bachelor of Science in Manual and Industrial Arts.
 - (d) Course in Public School Music, leading to the degree, Bachelor of School Music.
- II. A three-year Supervisor's Course in Public School Music, leading to a University diploma and the third-grade state certificate.
- III. A. Courses requiring two years for completion, and leading to a University diploma and a third-grade state certificate:
1. High School and Departmental Course.
 2. Intermediate Grades Course.
 3. Kindergarten-Primary Course.
 4. Home Economics Course.
 5. Manual Arts and Agriculture Course.
- B. Course requiring two years for completion, and leading to a University diploma and a special uniform county certificate:
6. Supervisor's Course in Art.

FOUR-YEAR COURSES

Professional training of not less than twenty hours is required in each of these courses, of which six hours should be psychology and fourteen hours educational courses. The following three courses in education are specifically required: School Management, History of Education, and Principles of Education.

BACHELOR OF SCIENCE IN EDUCATION CURRICULUM

Advisers: Dean of Education and the heads of the departments in which work is taken.

The Bachelor of Science in Education Curriculum leads to the degree of B. S. in Education and a first grade state certificate, which becomes a life certificate after five years of successful teaching experience.

Admission requirements to this curriculum are the same as the general requirements for admission to the University, namely 15 units of preparatory work as described on pages 30-33. While foreign language is not required for admission or graduation, the student is urged to take at least two years in college unless its equivalent has been taken in high school. One year's teaching experience is necessary before graduation from this course. The student may pursue any of the two-year curricula outlined in the College of Education for his Freshman and Sophomore years. The curriculum for the Junior and Senior years is outlined below. Students from other approved schools who have completed a two-year college normal course equivalent to those listed on the succeeding pages, may be admitted to Junior standing in the College of Education.

FRESHMAN AND SOPHOMORE YEARS

Any approved two-year college normal course from an accredited institution.

JUNIOR AND SENIOR YEARS

| | | |
|-----------|---------------------------------|---------------------|
| Group I. | Language and Literature | Minimum 14 hours |
| Group II. | Mathematics and Natural Science | 14 " |

| | | |
|---|----------|---|
| Group III. Philosophy, Social Science, and Religion | 14 | " |
| Education | 8 | " |
| Electives | 10 | " |
| Total | 60 hours | |

| GROUP I | GROUP II | GROUP III |
|--------------------------|-------------|-------------------|
| English | Agriculture | Commerce |
| French | Astronomy | Economics |
| German | Botany | Education |
| Graphic and Plastic Arts | Chemistry | History |
| Greek | Geology | History of Art |
| Latin | Mathematics | Home Economics |
| Music | Physics | Philosophy |
| Public Speaking | Zoology | Political Science |
| Spanish | | Psychology |
| | | Sociology |

At least 20 hours in some one of the above groups must be completed during the four years. This should involve a reasonable correlation with the course followed during the first two years.

SCHOOL SUPERVISION CURRICULUM

Adviser: Dean of Education.

This course is designed for the special training of school supervisors. It leads to the degree of Bachelor of Science in School Supervision (B. S. in S. S.).

FRESHMAN

| | | |
|--------------------------------|---|-------|
| English | 6 | hours |
| Public Speaking | 2 | " |
| Group II | 8 | " |
| Group III (Education excepted) | 8 | " |
| Elective | 8 | " |

SOPHOMORE

| | | |
|--------------------------------|---------|-------|
| English and Public Speaking | 4 | hours |
| Group I (additional) | 7 | " |
| Group II | 6 | " |
| Group III (Education excepted) | 6 | " |
| Elective | 8 to 10 | " |

JUNIOR AND SENIOR

| | | |
|--------------------------------|----------|-------|
| Group I | 12 | hours |
| Group II | 12 | " |
| Group III (Education excepted) | 12 | " |
| Education | 8 | " |
| Elective | 12 to 16 | " |

Note 1—Admission to Freshman year: 20 years of age; successful teaching experience; graduation from a standard four-year high school.

Note 2—Admission to Sophomore year: 20 years of age; successful teaching experience; one year in normal school or college which is approved beyond a standard four-year high school.

Note 3—Admission to Junior year: 21 years of age; successful

teaching experience; two years in approved normal school or college beyond a standard four-year high school.

Note 4—Admission to Senior year: 21 years of age; successful teaching experience; three years in normal school or college beyond a standard four-year high school.

Note 5—One year in a college or normal school will be considered as fully meeting the course requirements of the Freshman year. Two years in a college or normal school will be considered as fully meeting the course requirements of the Freshman and Sophomore years. Those entering after the beginning of the Junior year must, before graduation, complete the requirements in courses of the Junior and Senior year.

Note 6—No student entering the University as a Freshman may take more than 8 hours of education in his Freshman year, 8 hours in his Sophomore year, 12 hours in his Junior, 12 hours in his Senior year. If more than these amounts are presented from other institutions, they will be credited, provided that in no case shall the total credits in education exceed 60 hours.

MANUAL AND INDUSTRIAL ARTS CURRICULUM

Advisers: Dean of Education and the head of the department in which the major is taken.

This course leads to the degree of Bachelor of Science in Manual and Industrial Arts. It was organized to provide preparation for those who wish to specialize in the teaching of manual training, art, and vocational subjects. It also provides courses for those who wish to take a minor in this department, as well as for those who would include some of the aspects of manual arts in a program of liberal study.

By a judicious selection of electives, students majoring in this course may also qualify to teach manual arts and science, manual arts and domestic science, manual arts and agriculture, or manual arts and physical education. Teachers of these combination subjects are in great demand for high school positions.

FRESHMAN

| First Semester | Hrs. Cr. | Second Semester | Hrs. Cr. |
|----------------------------|----------|----------------------------|----------|
| English | | English | |
| 1a Freshman | 3 | 1b Freshman | 3 |
| Mathematics | | Mathematics | |
| 1a First Year | 5 | 1b First Year | 5 |
| Mechanical Engineering | | Mechanical Engineering | |
| 1a Engr. Drawing | 5 | 1b Engr. Drawing | 2 |
| Manual and Industrial Arts | | Manual and Industrial Arts | |
| 6 Forge Practice | 2 | 1 Modeling | 3 |
| Physical Education | | Architectural Engineering | |
| 1a Freshman | 1 | 2 Freehand Drawing | 2 |
| | — | Physical Education | |
| | 16 | 1b Freshman | 1 |
| | | | 16 |

SOPHOMORE

| | | | |
|-------------------------|---|-------------------------|---|
| Science | | Science | |
| Chemistry 1a and 2a, or | 5 | Chemistry 1b and 2b, or | 5 |
| Physics 2a | 5 | Physics 2b | 5 |
| Psychology | | Psychology | |
| 1 General | 3 | 23 Child | 3 |

| | | | |
|----------------------------|----|----------------------------|----|
| Manual and Industrial Arts | | Manual and Industrial Arts | |
| 7a Elem. of Design | 2 | 7b Elem. of Design | 2 |
| 2 Elem. Construction | 3 | Education | |
| 19 Teach. of Man. Tr. | 2 | 3 Principles | 2 |
| Physical Education | | Physical Education | |
| 2a Sophomore | 1 | 2b Sophomore | 1 |
| | — | Elective | 3 |
| | 16 | | — |
| | | | 16 |

JUNIOR

| | | | |
|----------------------------|----|----------------------------|----|
| Mechanical Engineering | | Mechanical Engineering | |
| 9 Foundry Practice | 3 | 12 Machine Shop Practice | 2 |
| Manual and Industrial Arts | | Manual and Industrial Arts | |
| 12a Craft Work | 5 | 12b Craft Work | 5 |
| 20a Practice Teaching | 2 | 20b Practice Teaching | 2 |
| Education | | Education | |
| 4 Mental Tests | 2 | 2b History of Education | 2 |
| Elective | 3 | 12 School Administration | 3 |
| | — | Elective | 2 |
| | 15 | | — |
| | | | 16 |

SENIOR

| | | | |
|----------------------------|----|-----------------------------|----|
| Manual and Industrial Arts | | Manual and Industrial Arts | |
| 3 Cabinet Construction | 3 | 4 Adv. Cabinet Construction | 3 |
| Education | | 13 Shop Installation | 3 |
| 9a Vocational Education | 2 | Education | |
| Elective | 10 | 11 H. S. Methods | 3 |
| | | Architectural Engineering | |
| | | 7 Working Drawing or | 4 |
| | | Elective | 4 |
| | | Elective | 2 |
| | — | | — |
| | 15 | | 15 |

Note—The electives should be taken in history, social science, and natural science.

PUBLIC SCHOOL MUSIC CURRICULUM

Advisers: Dean of Education and Dean of Fine Arts.

For outline of course, see under School of Fine Arts, page 106.

TWO-YEAR AND THREE-YEAR COURSES

The six two-year courses and the one three-year course offered in the College of Education have been organized to meet a felt need in the public schools of Iowa. The completion of any of these courses leads to a University diploma and a third grade state certificate, with the exception of the supervisor's course in art for which the special uniform county certificate is granted, in addition to the University diploma. Professional training of not less than fifteen hours is required by the University and the State Board of Educational Examiners in each of these courses. Of this professional training, six hours should be psychology, and the remaining nine hours educational courses. Three subjects in education are required, namely: School Management, History of Education, and Principles of Education.

HIGH SCHOOL AND DEPARTMENTAL COURSE

Advisers: Dean of Education and the head of the department in which the major elective is taken. This course is designed for those who are preparing:

1. To become principals or superintendents in the smaller high schools.
2. To teach in junior or senior high schools.
3. To teach in schools having the departmental system.

FIRST YEAR

| First Semester | Hrs. Cr. | Second Semester | Hrs. Cr. |
|---|----------------|---|----------------|
| English | | English | |
| 1a Freshman | 3 | 1b Freshman | 3 |
| Foreign Language, Mathematics or Science | 3 to 5 | Foreign Language, Mathematics or Science | 3 to 5 |
| History | | History | |
| 1a Mediaeval | 3 | 1b Modern | 3 |
| Psychology | | Psychology | |
| 21 Elementary | 3 | 22 Educational | 3 |
| Drawing | | Physical Education | |
| 101 Public School | 2 | 1b Freshman | 1 |
| Physical Education | | Elective | 2 |
| 1a Freshman | 1 | | |
| | <hr/> 16 or 17 | | <hr/> 16 or 17 |

SECOND YEAR

| | | | |
|------------------------------|----------|------------------------------|----------|
| English | | English | |
| 5a Char. and Forms of Liter. | 2 | 5b Char. and Forms of Liter. | 2 |
| Social Sciences | | Social Sciences | |
| Sociology 1 | 3 | Economics 2 | 3 |
| Education | | Political Science 2 | 3 |
| 1 School Management | 3 | Education | |
| 2a Hist. of Education | 2 | 2b Hist. of Education | 2 |
| Dramatic Art | | 3 Prin. of Education | 2 |
| 1a Public Speaking | 2 | Physical Education | |
| Physical Education | | 2b Sophomore | 1 |
| 2a Sophomore | 1 | Elective | 3 |
| Elective | 3 | | |
| | <hr/> 16 | | <hr/> 16 |

INTERMEDIATE GRADES COURSE

Advisers: Dean of Education and Supervisor of Intermediate Grades Course.

This course meets the needs of those who are to teach in grades four, five, and six.

FIRST YEAR

| First Semester | Hrs. Cr. | Second Semester | Hrs. Cr. |
|---------------------|----------|-----------------|----------|
| English | | English | |
| 1a Freshman | 3 | 1b Freshman | 3 |
| Education | | Hygiene | |
| 1 School Management | 3 | 131 School | 2 |

| | | | |
|-----------------------|-------|--------------------------------|-------|
| Psychology | | Psychology | |
| 21 Elementary | 3 | 22 Educational | 3 |
| Drawing | | Drawing | |
| 101 Public School | 2 | 103 Grade | 2 |
| Music | | Music | |
| 146 Elements of Music | 2 | 147 Primary and Inter. Methods | 2 |
| Library Methods | R. | Physical Education | |
| Physical Education | | 1b Freshman | 1 |
| 1a Freshman | 1 | 5 Playground Super. | 2 |
| Elective | 2 | Elective | 1 |
| | <hr/> | | <hr/> |
| | 16 | | 16 |

SECOND YEAR

| | | | |
|-----------------------------|-------|------------------------------|-------|
| Education | | Education | |
| 6 Hist. of Mod. Elem. Edcn. | 3 | 3 Prin. of Education | 2 |
| 7 Practice Teaching | 10 | 5 Standard Tests & Measmts. | 2 |
| Dramatic Art | | English | |
| 1a Public Speaking | 2 | 113 Liter. for Inter. Grades | 2 |
| Physical Education | | Science | |
| 2a Sophomore | 1 | 151 Nature Study | 2 |
| | | History | |
| | | 127 Inter. & Gram. Grades | 2 |
| | | Industrial Arts | |
| | | 136 Industrial Arts | 2 |
| | | Mathematics | |
| | | 142 Math. for Grades | 2 |
| | | Physical Education | |
| | | 2b Sophomore | 1 |
| | | Elective | 1 |
| | <hr/> | | <hr/> |
| | 16 | | 16 |

KINDERGARTEN-PRIMARY COURSE

Advisers: Dean of Education and Supervisor of Primary Education.

In line with most advanced practice in education, this course pur-
poses to unify the kindergarten with the work of lower elementary
grades and is intended to meet the needs throughout the state for well
trained kindergarten and primary teachers.

On account of the necessity for musical ability on the part of kinder-
garten teachers, in addition to other general requirements, those who
expect to follow this particular line must be able to sing and play the
piano reasonably well.

FIRST YEAR

| First Semester | Hrs. Cr. | Second Semester | Hrs. Cr. |
|-----------------------|----------|--------------------------------|----------|
| English | | English | |
| 1a Freshman | 3 | 1b Freshman | 3 |
| Education | | Hygiene | |
| 1 School Management | 3 | 131 School | 2 |
| Psychology | | Psychology | |
| 21 Elementary | 3 | 22 Educational | 3 |
| Drawing | | Drawing | |
| 101 Public School | 2 | 102 Primary | 2 |
| Music | | Music | |
| 146 Elements of Music | 2 | 147 Primary and Inter. Methods | 2 |

| | | | |
|--------------------|----------|---------------------|----------|
| Physical Education | | Physical Education | |
| 1a Freshman | 1 | 1b Freshman | 1 |
| Elective | 2 | 5 Playground Super. | 2 |
| | | Elective | 1 |
| | <hr/> 16 | | <hr/> 16 |

SECOND YEAR

| | | | |
|-----------------------------|----------|--------------------------------|----------|
| Education | | English | |
| 6 Hist. of Mod. Elem. Edcn. | 3 | 112 Prim. Liter. & Story-tell. | 2 |
| 7 Practice Teaching | 10 | 111 Primary | 2 |
| Dramatic Art | | Education | |
| 1a Public Speaking | 2 | 3 Prin. of Education | 2 |
| Physical Education | | 5 Standard Tests & Measmts. | 2 |
| 2a Sophomore | 1 | Science | |
| | | 151 Nature Study | 2 |
| | | History | |
| | | 126 Primary | 2 |
| | | Industrial Arts | |
| | | 136 Industrial Arts | 2 |
| | | Mathematics | |
| | | 141 Primary | 2 |
| | | Physical Education | |
| | | 2b Sophomore | 1 |
| | <hr/> 16 | | <hr/> 17 |

HOME ECONOMICS COURSE

Advisers: Dean of Education and Head of Home Economics Department.

As the name implies, this course is designed for those who expect to teach Home Economics. Graduates of this course are prepared to teach Home Economics in the smaller high schools, as well as some other high school subjects. They are also prepared to teach Home Economics in the grammar grades.

FIRST YEAR

| First Semester | Hrs. Cr. | Second Semester | Hrs. Cr. |
|--------------------------|----------|-------------------------|----------|
| English | | English | |
| 1a Freshman | 3 | 1b Freshman | 3 |
| Chemistry | | Chemistry | |
| 1a Inorganic | 3 | 1b Inorganic | 3 |
| 2a Inorganic Lab. | 2 | 2b Inorganic Lab. | 2 |
| Drawing | | Drawing | |
| 6 Prin. of Perspective | 2 | 3 Color Theory & Design | 2 |
| Psychology | | Psychology | |
| 21 Elementary | 3 | 22 Educational | 3 |
| Home Economics | | Home Economics | |
| 2 Textiles & Gar. Making | 2 | 1 S. & P. of Foods | 2 |
| Physical Education | | Physical Education | |
| 1a Freshman | 1 | 1b Freshman | 1 |
| | <hr/> 16 | | <hr/> 16 |

SECOND YEAR

| | | | |
|------------------------|----|------------------------|----|
| Foreign Lang. or Hist. | 3 | Foreign Lang. or Hist. | 3 |
| Home Economics | | Home Economics | |
| 3 Adv. Clothing | 2 | 7 Home Decoration | 2 |
| 5 Home Sanitation | 2 | 8 Plan. & Serv. Meals | 2 |
| 6 Foods | 2 | 14 Teachers' Course | 2 |
| Education | | Education | |
| 1 School Management | 3 | 3 Prin. of Education | 2 |
| Biology | | 2b Hist. of Education | 2 |
| 25 Bacteriology | 1 | Biology | |
| 26 Bacteriology Lab. | 2 | 5 Physiology | 2 |
| Physical Education | | 6 Physiology Lab. | 1 |
| 2a Sophomore | 1 | Physical Education | |
| | — | 2b Sophomore | 1 |
| | 16 | | — |
| | | | 17 |

MANUAL ARTS AND AGRICULTURE COURSE

Advisers: Dean of Education and departments concerned.

This course is designed for those who expect to teach manual training and agriculture in the grammar grades or small high schools. The number of hours required in this course, in both manual training and agriculture, more than doubles the State Department's requirement in these two subjects. Graduates of this course are not only able to teach manual arts and agriculture but can usually teach at least one or two other high school subjects. Students taking this course are advised to take 4 hours in Athletic Coaching.

FIRST YEAR

| First Semester | Hrs. Cr. | Second Semester | Hrs. Cr. |
|------------------------|----------|---------------------------|----------|
| English | | English | |
| 1a Freshman | 3 | 1b Freshman | 3 |
| Psychology | | Psychology | |
| 21 Elementary | 3 | 22 Educational | 3 |
| Agriculture | | Agriculture | |
| Biology 1a | 2 | 51 Crops | 2 |
| Biology 2a | 2 | 52 Crops Lab. | 2 |
| Mechanical Engineering | | Mechanical Engineering | |
| 1a Engr. Drawing | 5 | 1b Engr. Drawing | 2 |
| Physical Education | | Architectural Engineering | |
| 1a Freshman | 1 | 2 Freehand Drawing | 2 |
| | | Physical Education | |
| | | 1b Freshman | 1 |
| | | Elective | 1 |
| | — | | — |
| | 16 | | 16 |

SECOND YEAR

| | | | |
|------------------------------|---|----------------------------|---|
| Education | | Education | |
| 1 School Management | 3 | 2b Hist. of Education | 2 |
| Agriculture | | 3 Principles of Education | 2 |
| 53 Soils and Soil Fertility | 2 | Agriculture | |
| 54 Soils and Soil Fert. Lab. | 1 | 55 Anim. Husb. & St. Judg. | 2 |
| Manual and Industrial Arts | | 56 A. H. & S. J. Lab. | 1 |
| 2 Elem. Construction | 3 | Manual and Industrial Arts | |
| 7a Elem. of Design | 2 | 3 Cabinet Construction | 3 |

| | | | |
|-----------------------|-------|--------------------|-------|
| 19 Teach. of Man. Tr. | 2 | Physical Education | 1 |
| Physical Education | | 2b Sophomore | 5 |
| 2a Sophomore | 1 | Elective | |
| Elective | 2 | | |
| | <hr/> | | <hr/> |
| | 16 | | 16 |

SUPERVISOR'S COURSE IN ART

Advisers: Dean of Education and head of department.

As the name implies, this course is designed for those who expect to teach art in the grades and public schools. An intensive emphasis is put upon the different forms of art necessary for training in appreciation, and development of reasonable skill. Students who complete this course will be granted the special uniform county certificate which is transferable to any county in the state.

FIRST YEAR

| First Semester | Hrs. Cr. | Second Semester | Hrs. Cr. |
|---------------------------|----------|----------------------------|----------|
| English | | English | |
| 1a Freshman | 3 | 1b Freshman | 3 |
| Drawing | | Drawing | |
| 1a Hist. of Art | 2 | 1b Hist. of Art | 2 |
| 11 Elem. Freehand Drawing | 3 | 12 Inter. Freehand Drawing | 3 |
| 6 Prin. of Perspective | 2 | 3 Color Theory and Design | 2 |
| Mechanical Engineering | | Painting | |
| 1a Engr. Drawing | 5 | 21 Water Color | 2 |
| Physical Education | | Physical Education | |
| 1a Freshman | 1 | 1b Freshman | 1 |
| | | Elective | 3 |
| | <hr/> | | <hr/> |
| | 16 | | 16 |

SECOND YEAR

| | | | |
|--------------------------|-------|-------------------------------|-------|
| Drawing | | Drawing | |
| 13 Adv. Freehand Drawing | 5 | 31 Methods, Observ. | 3 |
| Psychology | | 32 Outlines of Cour's of St'y | 2 |
| 21 Elementary | 3 | 33 Review and Technique | 5 |
| Education | | Social Science | 5 |
| 1 School Management | 3 | Physical Education | |
| 2a Hist. of Education | 2 | 2b Sophomore | 1 |
| Physical Education | | | |
| 2a Sophomore | 1 | | |
| Elective | 2 | | |
| | <hr/> | | <hr/> |
| | 16 | | 16 |

PUBLIC SCHOOL MUSIC—THREE-YEAR COURSE

Advisers: Dean of Education and Dean of Fine Arts.

For outline of course, see under School of Fine Arts, page 105.

DESCRIPTION OF COURSES

(See also under College of Liberal Arts.)

EDUCATION AND PSYCHOLOGY**EDUCATION**

1. **SCHOOL MANAGEMENT.** 3 hours, first semester.

The problem of efficient school administration and class room management in securing modern educational objectives.

- 2a, b. **HISTORY OF EDUCATION.** 2 hours, throughout the year.

A brief history of the entire field of education with the emphasis upon those theories and movements of the past affecting present educational systems and tendencies.

3. **PRINCIPLES OF EDUCATION.** 2 hours, second semester.

This course deals somewhat intensively with the fundamental elements upon which education is based. Both the sociological and psychological principles are discussed.

4. **MENTAL TESTS.** 2 hours, first semester.

The value of individual and group tests as a means of homogeneous grouping of pupils forms the basis of this course. A study of some of the most reliable mental measures and how to use them is stressed.

5. **STANDARD TESTS AND MEASUREMENTS.** 2 hours, second semester.

Those tests, scales, and statistics which every efficient teacher should use in the grades are studied. The most practical of these measurements are given to the members of the class in order that they may be trained in the technique of giving them.

6. **HISTORY OF MODERN ELEMENTARY EDUCATION.** 3 hours, first semester.

The main part of this course will be devoted to such subjects as the development of the vernacular elementary schools, the early religious basis of elementary and secondary schools, and the causes that brought about the change to a secular basis.

7. **PRACTICE TEACHING.** 10 hours, first semester.

Teaching will be done in Des Moines Public Schools under the direction of the regular room teacher and the supervisor of the specific department in which the student is enrolled.

1. **L. A. SOCIOLOGY. INTRODUCTION TO SOCIOLOGY.** 3 hours, first semester.

See under Sociology, College of Liberal Arts.

8. **EDUCATIONAL SOCIOLOGY.** 3 hours, first semester.

Devoted to a study of the educational functions of social groups with special emphasis upon a consideration of the social nature and purpose of the school. (Open to Juniors and Seniors.)

- 9a, b. **VOCATIONAL EDUCATION.** 2 hours, throughout the year.

The work of the first semester deals with the problem of vocational education from an historical standpoint. Federal legislation affecting vocational courses in the public schools is reviewed. In the second semester a consideration of the whole problem of vocational guidance is stressed.

10. **HIGH SCHOOL CURRICULUM.** 2 hours, first semester.

An intensive course dealing with what should constitute a modern high school curriculum. The merits claimed for each subject in the curriculum are critically analyzed. Bulletins and reports of the N. E. A. committees supplement the text used.

11. **HIGH SCHOOL METHODS.** 3 hours, second semester.

The whole problem of economy in learning as applied to the high school adolescent forms the basis of the course. Methods and material are studied from the standpoint of results upon the high school pupil.

12. **SCHOOL ADMINISTRATION.** 3 hours, second semester.

The problems of the high school principal and superintendent are stressed. The supervisory program, buildings, finance, and teacher salary schedules are dealt with specifically.

PSYCHOLOGY

21. **ELEMENTARY PSYCHOLOGY.** 3 hours, first semester.

This course is concerned with the facts of attention, nervous and motor activities and their interactions, and the cognitive processes, sensations, perceptions, imagination, memory, conception, and thinking. The laws of learning will be stressed. Outside reading is required.

22. **EDUCATIONAL PSYCHOLOGY.** 3 hours, second semester.

This course attempts to apply psychological laws and principles to classroom methods and procedure. Prerequisite: Psychology 21.

23. **CHILD PSYCHOLOGY.** 3 hours, second semester.

How best to develop the instincts of the child; discussions of the most recent psychological studies in research. Meets the requirements for first grade state certificate.

(See also under Psychology, College of Liberal Arts.)

DRAWING

101. **PUBLIC SCHOOL DRAWING.** 2 hours, first semester.

Use of water colors, pencil, theory of perspective, drawing from observation of simple objects.

102. **PRIMARY DRAWING.** 2 hours, second semester.

A specialized course for primary grade students. It includes mass drawing, freehand cutting, color theory, design, lettering, and illustration adapted to the primary grades with special consideration of methods of presenting and lesson plans.

103. **GRADE DRAWING.** 2 hours, second semester.

A specialized course for intermediate grade students. Applications of perspective, working drawings, color theory and harmony, and some practice in water color. General principles of design with practical application to intermediate grade problems. Lettering and poster making.

ENGLISH

1a, b. **FRESHMAN ENGLISH.** 3 hours, throughout the year.

See under English, College of Liberal Arts.

111. **PRIMARY ENGLISH.** 2 hours, second semester.

Open only to students specializing in primary work. This course will deal with the presentation of primary reading and language. The psychology, and pedagogy of reading for primary grades will be included. Composition, oral and written, will be presented in its relation to the other subjects of the primary curriculum.

112. **PRIMARY LITERATURE AND STORYTELLING.** 2 hours, first semester.

This course consists of a study of primary literature and will give the teacher a basis for the appreciation, selection and presentation of suitable material for primary grades. Practice will be given in storytelling and organization of fairy tales, folk tales, Bible stories, animal and realistic stories.

13. LITERATURE FOR THE INTERMEDIATE AND GRAMMAR GRADES. 2 hours, first semester.

In this course the literature studied is that suitable for the grades. Myths, Bible stories, tales of adventure, chivalry, romance, simple narrative, and lyric poetry are discussed with reference to their literary value, their fitness for the various grades, and the best method of presentation.

GEOGRAPHY

121. TEACHER'S COURSE. 2 hours, first semester.

This course deals with the materials and methods in the teaching of geography in the elementary grades. The problem method will be stressed. Courses of study will be outlined.

HISTORY

126. PRIMARY HISTORY. 2 hours, second semester.

This course is to aid the primary teacher in the use of elementary historical material and the development of social relations in family, school, and state. It will consist of a study of man's development from primitive life and institutions to modern civilization.

127. HISTORY FOR THE INTERMEDIATE AND GRAMMAR GRADES. 2 hours, second semester.

A study will be made of the outstanding features and institutions of Greek, Roman and Mediaeval people which have influenced our present civilization. Methods and text books in the teaching of Greek, Roman and Mediaeval History will be emphasized. Also text books, problems and projects bearing on American History will be presented. Courses of study for the different grades will be outlined.

HYGIENE

131. SCHOOL HYGIENE. 2 hours, second semester.

A text book course supplemented by lectures and library work on the main topic of hygiene. The object of the course is to interest and inform prospective teachers regarding modern methods of health administration and health instruction in the grades of the public school.

INDUSTRIAL ART

136. INDUSTRIAL ART. 2 hours, second semester.

In this course will be given projects in clay, paper, cardboard, and textiles, as well as others related to the various subjects of the grades and the observation of holidays. Some study will be given to man's use of raw materials in providing food, clothing and shelter. This will lead up to the outline for the third grade geography. A fee of \$1.50 will be charged for the materials.

MATHEMATICS

141. PRIMARY MATHEMATICS. 2 hours, second semester.

This includes a study of the psychology of numbers leading up to the selection of material for primary grades and methods for presenting.

142. MATHEMATICS FOR THE GRADES. 2 hours, second semester.

This course includes the history of mathematics, the content to be taught in the different grades and the method of presentation.

MUSIC

146. ELEMENTS OF MUSIC. 2 hours, first semester.

Sight singing and the rudiments of music.

147. PRIMARY AND INTERMEDIATE NORMAL MUSIC METHODS. 2 hours, second semester.

Emphasis will be placed upon the following topics: protection and development of the child voice; how to train monotones; how to teach rote songs, observation songs and their purpose; melodic and rhythmical development; notation to the song and music reading; memorization of seasonal songs; some rhythmical work will also be given.

PHYSICAL EDUCATION

Required courses in physical training for men and for women during the Freshman and Sophomore years.

Athletic Coaching courses for men.

A course in Playground Supervision for women.

See under College of Liberal Arts.

Physical Education for Men.

Physical Education for Women.

PUBLIC SPEAKING

(See Dramatic Art 1a under School of Fine Arts.)

SCIENCE

151. NATURE STUDY. 2 hours, second semester.

Special attention is given to the study of domestic animals, plants, birds, trees, and the native wild life, together with its adaptation to its environment.

THE COLLEGE OF ENGINEERING

GENERAL INFORMATION

The College of Engineering was taken over by the Trustees in 1918 and reorganized as a college in Des Moines University. The location in the city of Des Moines, with its many and varied industries, is ideal for an engineering college, as it gives the student an opportunity for close contact with the work of his profession throughout his course.

The aim of the College of Engineering is to train men for the profession of engineering in the broadest sense. The courses have been planned with the expectation that the student in his contact with his fellow students and faculty in the atmosphere and activities of the University may not only acquire the technical knowledge necessary for the successful pursuance of his profession, but that he may also acquire high standards of living and a feeling of responsibility in his moral and civic relationships.

The instruction of the classroom is closely correlated with practice in the shops and laboratories. Throughout this course the student works on problems and proceeds by methods similar to those which arise in the experience of the practicing engineer. It is believed that a thorough training in English, drawing, mathematics, mechanics, and the sciences is the first requirement of any engineering course. To this end the first years of all courses are practically identical and consist largely of these fundamental subjects. In the upper classes a certain degree of specialization is deemed advisable and the professional courses are introduced. Those who wish to elect a foreign language are given an opportunity to do so in each of the courses. The study of a foreign language is advised for those who expect to enter the foreign service.

ENGINEERING LABORATORIES

The Departments of General Engineering, Drawing and Architectural Engineering Drawing and Design, are located on the fourth and fifth floors of the Administration Building. The mechanical drafting room contains twenty-four drafting tables of latest design, equipped with individual lockers for boards and tools sufficient for four sections of students. The freehand drawing studio is supplied with adjustable drawing easels and model stands and a good collection of casts, models and prints.

The Department of Chemical Engineering is located in Science Hall in the laboratories of the Department of Chemistry.

The equipment of the Department of Civil Engineering, which consists of Y and dumpy levels, plane and solar transits, plane table, compasses, astronomical telescopes, tapes, chains, poles, leveling rod, etc., is housed on the ground floor of Childs Hall.

The electrical laboratories are located on the ground floor of Childs Hall. The equipment of this department is of high grade and embodies the latest ideas in arrangement for testing the various types of direct and alternating current apparatus. In this laboratory are found two five-kilowatt rotary converters, capable of furnishing either single-phase,

two-phase or three-phase current, and one single-phase alternating current generator, one three-phase and one single-phase induction motor, one ten-horse-power auxiliary-pole motor, two ten-horse-power shunt motors, one five-horse-power and one two-horse-power shunt motor, five transformers and about fifty high-grade electrical engineering measuring instruments. These last consist of voltmeters and ammeters for direct current and alternating current, wattmeters and watthours meters. Among the auxiliary apparatus are portable lamp banks, water rheostats, prony brakes and choke coils to serve as loads to the machinery.

The machines are distributed about the room in pairs, one of each acting as a driver for the other. A controlling switchboard is located near each set, and all the necessary instruments, switches, circuit breakers and jacks are mounted here. These jacks are of special construction and all connections are made by plugs fitting into them.

In the electrical testing laboratory will be found a number of forms of delicate galvanometers, Wheatstone's bridges, ohm-meter, condensers, Siemen's synamometers, Reichenstalt standard resistance, Clark standard cell, a photometer, foot candle meter, and other apparatus.

The department has also installed a powerful wireless station, equipped for receiving and sending messages.

In the Engineering Laboratories Building is found the laboratory for testing materials of construction, such as wood, stone, concrete, brick, tile, steel, and iron. It is equipped with a standard concrete testing machine with auxiliary apparatus necessary for testing concrete, a 30,000-pound Olsen Universal testing machine, motor driven, with extensometer attachment, for testing materials in tension, compression, shear, and flexure.

In this building are also located the mechanical engineering laboratory and power plant and the engineering shops, which include wood and pattern shop, forge shop, foundry, machine shop and Department of Auto Mechanics. The mechanical engineering laboratory and power plant contains 3-150 H. P. high pressure boilers, a 300 H. P. Cochrane feed water heater, feed and vacuum pumps, storage tank, 150 H. P. 16x14 Ideal engine, connected to a 100 k.w. 3-wire D. C. generator; a 50 H. P. Murray-Corliss engine, 10 H. P. Otto gas engine and several small gasoline, oil and steam engines, equipped with brakes, calorimeters, gages and other auxiliary apparatus for testing purposes.

The wood shop is fully equipped with the following modern machine tools: Crescent Universal saw table, equipped with rip and cut-off saws and dado heads, and driven by 2 H. P. Western Electric Motor; a 36" Fay & Egan band saw driven by 3 H. P. Westinghouse motor; a 24" Sidney planer, driven by 2 H. P. Western Electric motor; an 8" Sidney joiner, driven by 1½ H. P. Roth motor; a 12"x8' Oliver pattern lathe with motor head; 6 motor head Oliver turning lathes; a power hollow chisel mortiser; a small disc sander; a 24" grindstone, a double end emery stand; an Oliver bench trimmer; a 2-quart electric glue heater; 17 benches with rapid acting vises and complete individual equipment for 17 students, besides clamps, gluing bench and general equipment required by the students in this department.

The machine shop equipment consists of the following machine tools:

15—14"x6' Sebastian engine lathes.

1—16"x8' geared head, quick change gear, Monarch lathe.

1—16"x8' cone head, quick change gear, Monarch lathe.

1—Turret lathe.

1—34" Colburn vertical boring mill, complete, with Universal chuck and attachments.

1—Brown & Sharpe milling machine.

- 1—16" shaper.
- 1—20" shaper.
- 1—30"x30"x8' planer.
- 1—Landis Universal Grinder.
- 1—Cutter grinder.
- 1—Wilmarth & Mormon drill grinder.
- 5—Speed lathes.
- 1—Punch press.
- 4—Drilling machines and complete assortment of small tools.

The forge shop has 18 Buffalo forges with power exhaust fan and blower; 1 portable rivet heating forge, anvils, tongs, hammers, swage blocks and other small tools, and Oxy-Acetylene welding and cutting equipment.

The foundry equipment consists of a one ton Colliau cupola, with motor-driven pressure blower and charging platform; No. 2 brass furnace, portable core oven; 2 Farwell Portable molding machines; 1 300-pound ladle; 1 100-pound ladle and a complete assortment of common and snap flasks, riddles, shovels, bellows and other molding equipment sufficient for a class of 15 students.

SUMMER VACATION WORK

All engineering students are required to take summer vacation work in addition to the work of the four academic years, as listed in the outline of the courses. This contact with engineering is of great benefit to the student during the latter part of his course, as it enables him to work from the viewpoint of the engineer.

INSPECTION TRIPS

Inspection trips, for visiting industrial plants, are required of all engineering students during the Senior year. These trips are arranged and conducted by the members of the faculty and are for the purpose of acquainting the student with engineering projects and works of note.

FRESHMAN LECTURES

The University has provided a course of lectures for Freshman engineering students. This course is for the purpose of giving the student an adequate conception of the various kinds of engineering work in order that he may choose wisely the course for which he is best fitted. The course covers the kinds of training and methods of study to secure the best results from the courses the student selects. The course also includes lectures on subjects of more general interest.

REQUIREMENTS FOR ADMISSION

For requirements for admission in the University in general, see pages 30-33.

Requirements for unconditional admission to any of the courses in engineering consist of 15 units (30 credits), as follows:

| Required: | Units |
|----------------------|-------|
| Algebra | 1½ |
| Plane Geometry | 1 |
| Solid Geometry | ½ |
| English | 3 |
| History | 1 |

| | |
|-------------------|-------|
| Science | 1 |
| | <hr/> |
| | 8 |
| Electives | 7 |
| | <hr/> |
| Total units | 15 |

Students without third-semester algebra or solid geometry will be admitted conditionally, but must remove the conditions during the first year in residence.

The elective units may be taken from the usual high school studies. Among those most desirable as a preparation for good work in the engineering courses are: advanced grammar, literature, civics, economics, history, commercial arithmetic, higher arithmetic, physiology, commercial law, chemistry, bookkeeping, drawing, manual training, foreign language.

COURSES OF STUDY AND DEGREES

The College of Engineering offers five four-year courses, as follows:

Architectural Engineering,
Chemical Engineering,
Civil Engineering,
Electrical Engineering,
Mechanical Engineering.

Students who satisfactorily complete any of the above four-year courses are graduated with the degree of Bachelor of Science, the diploma designating the course taken.

The above courses may also be taken as five-year courses leading to the same degree, or to a Liberal Arts degree if the necessary adjustments are made. The additional year will enable the student to broaden his education by taking a large amount of work in the College of Liberal Arts.

A student who has completed one of the engineering courses can usually complete any one of the remaining engineering courses by an additional year and thereby earn his B. S. degree in that course also.

PROFESSIONAL DEGREES

Graduates from any of the four-year courses in engineering may receive the full professional degree of Civil Engineer, Electrical Engineer, Mechanical Engineer, Chemical Engineer, or Architectural Engineer, after five years of engineering work in a position of responsibility and the presentation of an acceptable thesis. Each applicant for a professional degree must have his application and thesis subject on file at the College not later than April 1. The finished thesis, together with a concise, though complete, record of his engineering experience must be in the hands of the Dean of the College of Engineering not later than May 15.

EXPLANATORY NOTE

In the following manifests of courses, the designation A. E. refers to courses in Architectural Engineering; Chem. E., to Chemical Engineering; C. E., to Civil Engineering; E. E., to Electrical Engineering, and M. E., to Mechanical Engineering. The numerals designate the courses, and the letters a, b, designate the first and second semesters, respectively.

CURRICULUM IN ARCHITECTURAL ENGINEERING

FRESHMAN

First Semester

| | |
|--------------------------|----|
| Mathematics 1a | 5 |
| English 1a | 3 |
| Chemistry 1a | 3 |
| Chemistry 2a | 2 |
| M. E. 1a | 5 |
| Physical Education | 1 |
| Engr. Lecture | R. |

Second Semester

| | |
|--------------------------|----|
| Mathematics 1b | 5 |
| English 1b | 3 |
| Chemistry 1b | 3 |
| Chemistry 2b | 2 |
| A. E. 2 | 2 |
| M. E. 2 | 3 |
| Physical Education | 1 |
| Engr. Lecture | R. |

19

19

SOPHOMORE

| | |
|--------------------------|---|
| Mathematics 2a | 5 |
| Physics 2a | 5 |
| Chemistry 20 | 3 |
| A. E. 1a | 2 |
| C. E. 3 | 3 |
| Physical Education | 1 |

| | |
|--------------------------|---|
| Mathematics 2b | 5 |
| Physics 2b | 5 |
| M. E. 3 | 5 |
| A. E. 1b | 2 |
| A. E. 3 | 1 |
| Physical Education | 1 |

19

19

A. E. 13 Summer Construction Work—10 weeks, 2 hrs. cr.

JUNIOR

| | |
|----------------|---|
| M. E. 4 | 3 |
| C. E. 19 | 2 |
| C. E. 9 | 2 |
| A. E. 4 | 5 |
| A. E. 5a | 5 |

| | |
|----------------|---|
| M. E. 5 | 2 |
| C. E. 1 | 3 |
| C. E. 10 | 2 |
| A. E. 5b | 5 |
| A. E. 7 | 4 |

17

16

SENIOR

| | |
|-----------------|---|
| C. E. 12a | 5 |
| C. E. 13 | 3 |
| C. E. 14 | 3 |
| M. E. 23 | 3 |
| E. E. 11 | 2 |
| Elective | 2 |

| | |
|-----------------------|----|
| C. E. 12b | 2 |
| C. E. 15 | 3 |
| A. E. 6 | 3 |
| A. E. 9 | 3 |
| A. E. 11 | 2 |
| Elective | 5 |
| Inspection Trip | R. |

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CURRICULUM IN CHEMICAL ENGINEERING

FRESHMAN

| First Semester | | Second Semester | |
|--------------------------|----|--------------------------|----|
| Mathematics 1a | 5 | Mathematics 1b | 5 |
| English 1a | 3 | English 1b | 3 |
| Chemistry 1a | 3 | Chemistry 1b | 3 |
| Chemistry 2a | 2 | Chemistry 2b | 2 |
| M. E. 1a | 5 | M. E. 1b | 2 |
| Physical Education | 1 | M. E. 2 | 3 |
| Engr. Lecture | R. | Physical Education | 1 |
| | — | Engr. Lecture | R. |
| | 19 | | — |
| | | | 19 |

SOPHOMORE

| | | | |
|--------------------------|----|--------------------------|----|
| Mathematics 2a | 5 | Physics 2b | 5 |
| Physics 2a | 5 | Chemistry 5 | 2 |
| Chemistry 3 | 2 | Chemistry 6 | 3 |
| Chemistry 4 | 2 | M. E. 3 | 5 |
| Chemistry 20 | 3 | Physical Education | 1 |
| Physical Education | 1 | Elective | 2 |
| | — | | — |
| | 18 | | 18 |

JUNIOR

| | | | |
|-----------------------|----|-----------------------|----|
| Chemistry 11 | 4 | Chemistry 13 | 3 |
| Chemistry 12 | 2 | Chemistry 14 | 2 |
| Chemistry 10 | 2 | Chemistry 10 | 2 |
| M. E. 4 | 3 | M. E. 5 | 2 |
| Modern Language | 5 | Modern Language | 5 |
| M. E. 14 | 3 | M. E. 11 | 3 |
| | — | | — |
| | 19 | | 17 |

Chem. 190 Summer Vacation Work—10 weeks, 2 hrs. cr.

SENIOR

| | | | |
|---------------------|----|-----------------------|----|
| Chemistry 19a | 4 | Chemistry 19b | 4 |
| Chemistry 18a | 3 | Chemistry 18b | 3 |
| Chemistry 21 | 3 | Chemistry 23 | 2 |
| Economics 2 | 3 | A. E. 11 | 2 |
| Elective | 5 | Elective | 7 |
| | — | Inspection Trip | R. |
| | 18 | | — |
| | | | 18 |

CURRICULUM IN CIVIL ENGINEERING

FRESHMAN

| First Semester | | Second Semester | |
|--------------------------|----|--------------------------|----|
| Mathematics 1a | 5 | Mathematics 1b | 5 |
| English 1a | 3 | English 1b | 3 |
| Chemistry 1a | 3 | Chemistry 1b | 3 |
| Chemistry 2a | 2 | Chemistry 2b | 2 |
| M. E. 1a | 5 | M. E. 1b | 2 |
| Physical Education | 1 | M. E. 2 | 3 |
| Engr. Lecture | R. | Physical Education | 1 |
| | — | Engr. Lecture | R. |
| | 19 | | — |
| | | | 19 |

SOPHOMORE

| | | | |
|--------------------------|----|--------------------------|----|
| Mathematics 2a | 5 | Mathematics 2b | 5 |
| Physics 2a | 5 | Physics 2b | 5 |
| Chemistry 20 | 3 | M. E. 3 | 5 |
| C. E. 3 | 3 | C. E. 1 | 3 |
| C. E. 4 | 2 | Physical Education | 1 |
| Physical Education | 1 | | — |
| | — | | 19 |
| | 19 | | |

C. E. 6 Summer Highway Engineering—10 weeks, 2 hrs. cr.

JUNIOR

| | | | |
|----------------|----|----------------|----|
| M. E. 4 | 3 | M. E. 5 | 2 |
| M. E. 10 | 5 | M. E. 15 | 3 |
| M. E. 14 | 3 | C. E. 8 | 2 |
| C. E. 2 | 5 | C. E. 10 | 2 |
| C. E. 9 | 2 | C. E. 11 | 5 |
| | — | C. E. 23 | 5 |
| | 18 | | 19 |
| | | | — |

SENIOR

| | | | |
|-----------------|----|-----------------------|----|
| C. E. 12a | 5 | C. E. 12b | 2 |
| C. E. 13 | 3 | C. E. 15 | 3 |
| C. E. 14 | 3 | C. E. 17 | 2 |
| C. E. 16 | 2 | C. E. 18 | 1 |
| Elective | 5 | C. E. 7 | 3 |
| | — | A. E. 11 | 2 |
| | 18 | Elective | 5 |
| | | Inspection Trip | R. |
| | | | — |
| | | | 18 |

CURRICULUM IN ELECTRICAL ENGINEERING

FRESHMAN

| First Semester | | Second Semester | |
|--------------------------|----|--------------------------|----|
| Mathematics 1a | 5 | Mathematics 1b | 5 |
| English 1a | 3 | English 1b | 3 |
| Chemistry 1a | 3 | Chemistry 1b | 3 |
| Chemistry 2a | 2 | Chemistry 2b | 2 |
| M. E. 1a..... | 5 | M. E. 1b..... | 2 |
| Physical Education | 1 | M. E. 2..... | 3 |
| Engr. Lecture | R. | Physical Education | 1 |
| | — | Engr. Lecture | R. |
| | 19 | | — |
| | | | 19 |

SOPHOMORE

| | | | |
|--------------------------|----|--------------------------|----|
| Mathematics 2a | 5 | Mathematics 2b | 5 |
| Physics 2a | 5 | Physics 2b | 5 |
| Chemistry 20 | 3 | M. E. 3..... | 5 |
| M. E. 8..... | 2 | C. E. 1..... | 3 |
| M. E. 9..... | 3 | Physical Education | 1 |
| Physical Education | 1 | | — |
| | — | | 19 |
| | 19 | | |

Summer Vacation Shop Work—10 weeks, 2 hrs. cr.

JUNIOR

| | | | |
|------------------|----|------------------|----|
| M. E. 4..... | 3 | M. E. 5..... | 2 |
| M. E. 10..... | 5 | M. E. 11..... | 3 |
| M. E. 14..... | 3 | M. E. 12..... | 2 |
| E. E. 1..... | 5 | M. E. 15..... | 2 |
| C. E. 19..... | 2 | E. E. 2..... | 1 |
| Physics 5a | 1 | E. E. 3..... | 5 |
| | — | E. E. 5..... | 2 |
| | 19 | Physics 5b | 1 |
| | | | — |
| | | | 18 |

SENIOR

| | | | |
|----------------|----|-----------------------|----|
| E. E. 6..... | 5 | E. E. 7..... | 2 |
| E. E. 8a..... | 3 | E. E. 8b..... | 3 |
| E. E. 9..... | 3 | E. E. 10b..... | 2 |
| E. E. 10a..... | 3 | E. E. 12..... | 2 |
| E. E. 11..... | 2 | A. E. 11..... | 2 |
| Elective | 2 | M. E. 17..... | 5 |
| | — | M. E. 19..... | 3 |
| | 18 | Inspection Trip | R. |
| | | | — |
| | | | 19 |

CURRICULUM IN MECHANICAL ENGINEERING

FRESHMAN

| First Semester | | Second Semester | |
|--------------------------|----|--------------------------|----|
| Mathematics 1a | 5 | Mathematics 1b | 5 |
| English 1a | 3 | English 1b | 3 |
| Chemistry 1a | 3 | Chemistry 1b | 3 |
| Chemistry 2a | 2 | Chemistry 2b | 2 |
| M. E. 1a | 5 | M. E. 1b | 2 |
| Physical Education | 1 | M. E. 2 | 3 |
| Engr. Lecture | R. | Physical Education | 1 |
| | — | Engr. Lecture | R. |
| | 19 | | — |
| | | | 19 |

SOPHOMORE

| | | | |
|--------------------------|----|--------------------------|----|
| Mathematics 2a | 5 | Mathematics 2b | 5 |
| Physics 2a | 5 | Physics 2b | 5 |
| Chemistry 20 | 3 | M. E. 3 | 5 |
| M. E. 8 | 2 | C. E. 1 | 3 |
| M. E. 9 | 3 | Physical Education | 1 |
| Physical Education | 1 | | — |
| | — | | 19 |
| | 19 | | |

Summer Vacation Shop Work—10 weeks, 2 hrs. cr.

JUNIOR

| | | | |
|------------------|----|------------------|----|
| M. E. 4 | 3 | M. E. 5 | 2 |
| M. E. 10 | 5 | M. E. 7 | 3 |
| M. E. 14 | 3 | M. E. 11 | 3 |
| E. E. 1 | 5 | M. E. 12 | 2 |
| C. E. 19 | 2 | M. E. 15 | 2 |
| Physics 5a | 1 | E. E. 3 | 5 |
| | — | Physics 5b | 1 |
| | 19 | | — |
| | | | 18 |

SENIOR

| | | | |
|-----------------|----|-----------------------|----|
| M. E. 16a | 5 | M. E. 13 | 3 |
| M. E. 18 | 2 | M. E. 17 | 5 |
| M. E. 23 | 3 | M. E. 19 | 3 |
| E. E. 8a | 3 | M. E. 22 | 2 |
| Elective | 5 | A. E. 11 | 2 |
| | — | Elective | 3 |
| | 18 | Inspection Trip | R. |
| | | | — |
| | | | 18 |

DESCRIPTION OF COURSES

The notation, "Lects., 2; labs., 2, 3 hours," means two lectures per week, and two laboratory periods of three school hours each.

ARCHITECTURAL ENGINEERING

1a, b. HISTORY OF ARCHITECTURE. 2 hours, throughout the year.

From the Egyptian period to modern times; effects of local, political and economic conditions; influence of material, climate, and structural systems.

2. FREEHAND DRAWING. 2 hours, second semester.

Drawing from cast, with pencil, charcoal, and brush; outline, light, and shade. Labs., 2, 3 hours each.

3. MECHANICAL PERSPECTIVE. 1 hour, second semester.

Lab., 1, 3 hours.

4. ARCHITECTURAL DRAWING. 5 hours, first semester.

Pen, pencil, and brush; lettering, shades, and shadows. Study of the Orders, rendered plan, and sketch problems. Library research. Labs., 5, 3 hours each.

5a, b. ARCHITECTURAL DESIGN. 5 hours, throughout the year.

Labs., 5, 3 hours each.

6. ADVANCED DESIGN. 3 hours, second semester.

Final problem, a complete design for thesis. Labs., 3, 3 hours each.

7. WORKING DRAWINGS. 4 hours, second semester.

Drawing of plans and elevations, and drawing to large scale various building details. Preparation of complete sets of plans. Labs., 4, 3 hours each.

8. MECHANICAL EQUIPMENT OF BUILDINGS. 3 hours, second semester.

Theory and practice in designing, simple systems for buildings, covering heating and ventilation, refrigeration, fire protection, vacuum systems, elevators, lighting, etc. Lects., 2; lab., 1, 3 hours.

9. FIREPROOF CONSTRUCTION. 3 hours, second semester.

Study of various types, principles and design of fireproof construction. Labs., 3, 3 hours each.

10. PLUMBING. 2 hours, first semester.

Plumbing, sewage disposal, water supply, fixtures. Lects., 2.

11. CONTRACTS AND SPECIFICATIONS. 2 hours, second semester.

Law of contracts, practice in specification writing.

12. ESTIMATES. 1 hour, second semester.

Methods of estimating illustrated by problems.

13. SUMMER VACATION WORK. 2 hours, 10 weeks.

CHEMICAL ENGINEERING

For a description of courses given in chemical engineering see list of courses under Department of Chemistry, College of Liberal Arts.

CIVIL ENGINEERING

1. PLANE SURVEYING. 3 hours, second semester.

The use of the tape, level and transit exercises in chaining, measuring, angles, computing areas, and making scale drawings from the field notes. The course includes a transit survey and map of the campus. Labs., 3, 3 hours each; lab. fee, \$2.00 per credit hour.

2. PLANE SURVEYING. 5 hours, first semester.

Survey of United States public lands; leveling, transit and stadia, city, topographic, mining, plane table and geodetic surveying.

3. GEOLOGY. 3 hours, first semester.

The surface features of the earth and their origin; the agencies and processes of geologic changes, formation of different classes of rocks; a study of the common rocks and minerals with special reference to their value in engineering.

4. ROADS AND PAVEMENTS. 2 hours, first semester.

A study of the principles of the construction and maintenance of earth, gravel, macadam, concrete, brick, and bituminous roads and pavements.

5. MATERIALS OF CONSTRUCTION. 2 hours, first semester.

A study of the properties, uses, methods of manufacture and of testing lime, cement, stone, brick, sand, timber, ores, cast iron, wrought iron, and steel.

6. HIGHWAY ENGINEERING. 3 hours, summer vacation work with State Highway Commission.

Covering preliminary investigations, location, design, foundations, drainage, comparison of roads and pavements, culverts, curbing, preliminary survey, cross sections, profile, excavation and materials required for a definite section of road.

7. MUNICIPAL ENGINEERING. 2 hours, first semester.

A study of city planning, lighting, street cleaning, snow removal, garbage disposal and parks.

8. PRACTICAL ASTRONOMY. 2 hours, second semester.

The course deals with the practical application of astronomy in relation to the determination of time, latitude, longitude and azimuth. Problems will be assigned.

9. STRUCTURAL STRESSES. 2 hours, first semester.

Determination of stresses in roofs and bridges by algebraic and graphic processes.

10. STRUCTURAL DETAILS. 2 hours, second semester.

Design of details for roofs, bridges and steel frame buildings. Labs., 2, 3 hours each.

11. STEEL BRIDGE DESIGN. 5 hours, second semester.

Design of a through plate girder railroad bridge, detail and assembly drawings and estimate of weight. Design of a pin connected steel railroad bridge with detail and assembly drawings and estimate of weight. Lect., 1; labs., 4, 3 hours each.

12a. STRUCTURAL ENGINEERING. 5 hours, first semester.

Design of a steel mill building or similar structure with special reference to eccentric loading and wind stresses, detail and assembly drawings. Lect., 1; labs., 4, 3 hours each.

12b. STRUCTURAL ENGINEERING. 2 hours, second semester.

Design of a steel office building or similar structure with special reference to wind stresses and details; detail and assembly drawings. Labs., 2, 3 hours each.

13. MASONRY AND CONCRETE. 3 hours, first semester.

A study of brick and stone masonry and plain concrete structures, foundations of buildings and bridges, bridge piers and abutments, retaining walls and culverts.

14. RE-ENFORCED CONCRETE. 3 hours, first semester.

A study of the fundamental principles of re-enforced concrete design.

Design of floor slab, beam, girder, column and footing for an assigned building, detail drawing and rod sheets.

15. **CONCRETE DESIGN.** 3 hours, second semester.

Design of a re-enforced concrete highway bridge of two spans, detail and assembly drawings and rod sheets. Labs., 3, 3 hours each.

16. **WATER SUPPLY.** 2 hours, first semester.

Investigations regarding the sources and requirements of a city water supply. A study of the design and construction of water works systems.

17. **SEWAGE DISPOSAL.** 2 hours, second semester.

A detailed study of the various methods of treatment and disposal of sewage.

18. **IRRIGATION AND DRAINAGE.** 1 hour, second semester.

Study of the principles involved in the design and construction of irrigation and drainage projects.

19. **MATERIALS LABORATORY.** 2 hours, first semester.

Testing properties of building stone, brick, cement, and concretes of varying proportions. Standard tests on steel, wood and other materials of construction. Labs., 2, 3 hours each; lab. fee, \$2.00 per credit hour.

20. **THESIS.** 3 to 5 hours, second semester.

Each candidate for a degree in civil engineering must prepare and have bound, according to specifications furnished, a thesis on some subject related to his course of study. This may be in the nature of an investigation, design or a combination of both. The subject must be chosen and presented to the head of the department for approval, not later than the beginning of the second semester of the Senior year, with an outline of its proposed development. The thesis must be completed at least three weeks before the time of graduation. Originality, in so far as the student is concerned, is a requirement.

21. **PRINCIPLES OF MINING ENGINEERING.** Second semester.

Mine surveying, terminology, explosives and blasting; well and rock drilling; coal cutting; shaft sinking and tunneling; methods of working and timbering flat and inclined deposits.

22. **WATER PURIFICATION.** First semester.

A study of the various methods of water purification, and methods of the design and construction of water purification works.

23. **RAILWAY ENGINEERING.** 5 hours, second semester.

A study of the principles underlying the construction and maintenance of railroads. Recitations covering preliminary surveys, location, leveling, cross sections, and theory of curves, field problems in laying out curves. Lect., 3; labs., 2, 3 hours each; lab. fee, \$2.00 per credit hour.

ELECTRICAL ENGINEERING

1. **ELECTRICITY AND MAGNETISM.** 5 hours, first semester.

Advanced course in the study of laws underlying electricity and magnetism. Lectures, recitations and problems. Prerequisite: full Junior standing in engineering.

2. **ELECTRICAL AND MAGNETIC TESTING.** 1 hour, second semester.

Advanced course in the testing and calibration of electrical instruments used in the laboratories. Lab., 1, 3 hours each; lab. fee, \$2.00 per credit hour.

3. **DIRECT CURRENT MACHINERY.** 5 hours, second semester.

An advanced course in the general theory of the direct current generator and motor, armature windings, characteristic curves and the adaptation of the several types of direct current machinery to different

industrial purposes. The storage battery and three wire systems are studied in detail. Lectures, recitations and practical problems.

5. **PRINCIPLES OF ALTERNATING CURRENTS.** 2 hours, second semester.

The laws of alternating current circuits, vector diagrams of simple and complex circuits. Illustrated by numerous problems.

6. **ALTERNATING CURRENT MACHINERY.** 5 hours, first semester.

Theory and operation of alternating current generators, motors and transformers. Polyphase systems. Lectures and recitations. Prerequisite: course 5.

7. **ALTERNATING CURRENT MACHINERY.** 2 hours, second semester.

A continuation of 6. Lectures and recitations.

8a. **ELECTRICAL ENGINEERING LABORATORY.** 3 hours, first semester.

Practice in the operation, testing, and connecting up of direct current machinery; characteristic curves, efficiency tests, parallel operation of generators, and the study and use of electrical engineering instruments. Calculation of results and write-up of reports outside work. Prerequisite: course 3. Labs., 3, 3 hours each. Lab. fee, \$2.00 per credit hour; lab. dep. \$4.00.

8b. **ELECTRICAL ENGINEERING LABORATORY.** 3 hours, second semester.

A continuation of 8a. The first part of the course completes the experiments with direct current machinery. The remainder takes up experiments with resistance, inductance and capacity in series and parallel; resonance, the effect of iron in alternating current circuits, and experiments with alternating current machinery. Operation, performance and efficiency tests of alternating current machinery. Calculation of results and write-up of reports outside work. Prerequisite: course 8a. Labs., 2, 3 hours each; lab. fee, \$2.00 per credit hour; lab. dep. \$4.00.

9. **ELECTRICAL RAILWAY ENGINEERING.** 3 hours, first semester.

Electric railway systems and apparatus; the design of feeder and trolley systems; and the determination of the proper equipment for a given service. Lectures, recitations and problems.

10a. **DIRECT CURRENT DYNAMO DESIGN.** 3 hours, first semester.

A complete set of calculations and drawings with specifications of a direct current machine are required for the completion of this course. Prerequisite: courses 3 and 4. Lect., 1; labs., 2, 3 hours each.

10b. **ALTERNATING CURRENT MACHINE DESIGN.** 2 hours, second semester.

A complete set of calculations and drawings with specifications of an alternator or induction motor and a transformer are required for the completion of this course. Prerequisite: courses 5 and 6. Lect., 1; lab., 1, 3 hours.

11. **ILLUMINATION.** 2 hours, first semester.

Theory of illumination, natural and artificial lighting. Special emphasis is placed on the subject of electric lighting.

12. **ELECTRIC POWER TRANSMISSION.** 2 hours, second semester.

The principles underlying the layout of power-house and switchboard circuits of high voltage transmission and distributing systems, and the calculation and design of transmission lines. Lectures, recitations, and numerous practical problems.

13. **THESIS.** 2 or 3 hours, second semester.

Original investigations along some special line in electrical engineering, such as the design and construction of some special apparatus or machine, the design with specifications of a power plant and distributing system, some critical study and test of a new type of electrical machine, the testing of power plants, or research work along special lines. Elective

for Seniors in electrical engineering. The subject shall have been selected at the beginning of the second semester.

MECHANICAL ENGINEERING

1a. ENGINEERING DRAWING. 5 hours, first semester.

Elements of drafting; use of instruments, projections, conventions, lettering. Lects., 2; labs., 3, 3 hours each.

1b. ENGINEERING DRAWING. 2 hours, second semester.

Machine drawing, detail and assembly drawing; tracing and blue-printing, drafting, office practice, lettering. Labs., 2, 3 hours each.

2. DESCRIPTIVE GEOMETRY. 3 hours, second semester.

Point, line and plane, sections and intersections, shades and shadows, perspective. Lects., 2; lab., 1, 3 hours.

3. MECHANICS. 5 hours, second semester.

Elementary statics and dynamics, theory of centre of gravity and moment of inertia comprise principally the first semester's work. Analytic methods are more generally employed, supplemented by graphic constructions and numerous examples of practical application.

4. MECHANICS. 3 hours, first semester.

Mechanics of materials; simple and direct stress; tension, compression, and shear; compound and flexural stresses; moment and shear diagrams; columns and struts.

5. MECHANICS. 2 hours, second semester.

Mechanics of motion; kinetics; dynamics; work, energy; power, and friction.

6. DYNAMICS OF MACHINERY. 5 hours, second semester.

Study of the effect of motions of machine parts, momentum, inertia, kinetic energy, balancing of machines, gyroscopic action. Lects., 3; labs., 2, 3 hours each.

7. MECHANICS OF MACHINERY. 3 hours, second semester.

Kinematics and Kinetics. A detailed study of linkages, quick return motions, cams, gears, instantaneous centers, velocities, velocity polygons and diagrams. Accelerations and acceleration polygons, Coriolis' law. Lect., 1; labs., 2, 3 hours each.

8. FORGE PRACTICE. 2 hours, first semester.

General smithing operations, elementary metallurgy, management of forging plants. Labs., 2, 3 hours each; lab. fee, \$2.50 per credit hour.

9. FOUNDRY PRACTICE. 3 hours, first semester.

Principles of pattern construction, pattern making, bench and floor moulding, cupola operation, foundry management and operation. Labs., 3, 3 hours each; lab. fee, \$2.50 per credit hour.

10. STEAM ENGINES AND BOILERS. 5 hours, first semester.

A thorough study of the steam boiler from both the theoretical and practical viewpoint. The several classes of boilers, their construction, furnace details, boiler accessories and piping. The study of steam engines and turbines, both in construction and operation.

11. THERMODYNAMICS. 3 hours, second semester.

Starting with a knowledge of heat and its effects, this course covers the subject of thermodynamics and its application to heat engines, refrigeration and heating. The theoretical discussions are supplemented by a large number of practical problems. Prerequisite: Physics 2a and b and Mathematics 2a and b.

12. MACHINE SHOP PRACTICE. 2 hours, second semester.

Bench work in metal; practice in the operation of machine tools. Labs., 2, 3 hours each; lab. fee, \$2.50 per credit hour.

3. ADVANCED MACHINE WORK AND SHOP MANAGEMENT. 3 hours, second semester.

Modern machine shop practice and management, manufacturing methods, planning, production, routing, dispatching, inspection, time studies; machine operation, assembling, testing. Labs., 3, 3 hours each; lab. fee, \$2.50 per credit hour.

4. HYDRAULICS. 3 hours, first semester.

The principles of hydrostatic and hydrodynamic pressure, the flow of water through pipes, open channels and orifices, over weirs, and loss of pressure from friction and other sources.

15. HYDRAULIC MOTORS. 3 hours, second semester.

Continuation of 14. Considers mainly the study of impulse water wheels and reaction turbines, with respect to their construction, regulation and testing and to the various sources of loss of energy.

16a. MACHINE DESIGN. 5 hours, first semester.

Theory of engineering design, a study of the elements of a machine for strength, utility, etc., derivation of formulas for rational design; empirical design. Design of a complete machine as a punch, shear, press, crane, hoist, etc. Lects., 3; labs., 2, 3 hours each.

16b. EXPERIMENTAL DESIGN. 2 hours, second semester.

Design and commercial application of special tools, jigs, fixtures, dies, and gauges used in modern production methods of manufacture. Labs., 2, 3 hours each.

17. POWER PLANT DESIGN. 5 hours, second semester.

Layout and design of some form of a complete power plant. Lect., 3; labs., 2, 3 hours each.

18. POWER LABORATORY. 2 hours, first semester.

The calibration and use of instruments used in power plant testing, power plant operation, indicator practice. Labs., 2, 3 hours each; lab. fee, \$2.00 per credit hour; lab. dep. \$4.00.

19. POWER LABORATORY. 3 hours, second semester.

A continuation of Course 18. The testing of engines, boilers, and auxiliaries, valve setting, etc. Labs., 3, 3 hours each; lab. fee, \$2.00 per credit hour; lab. dep., \$4.00.

21. GAS, POWER LABORATORY. 2 hours, second semester.

Study and testing of gas and oil-engines, gas producers, etc. Labs., 2, 3 hours each; lab. fee, \$2.00 per credit hour; lab. dep., \$4.00.

22. PRINCIPLES OF MANAGEMENT. 2 hours, second semester.

Principles underlying factory operation. Practical training in organization and management of a machine shop manufacturing a line of standardized products by modern production methods.

23. HEATING AND VENTILATING. 3 hours, first semester.

A study of the principles of heating and ventilation, the construction and operation of heating apparatus, hot water, exhaust, vacuum and fan systems, including the design of a complete system of heating and ventilation for some approved building plan. Lects., 2; lab., 1, 3 hours.

For description of courses given in College of Liberal Arts, see the courses listed under College of Liberal Arts.

MANUAL AND INDUSTRIAL ARTS

1. MODELING. 3 hours, second semester.

Modeling in clay, wax and plaster, natural and conventional forms; casting. Labs., 3, 3 hours each; lab. fee, \$2.00 per credit hour.

2. ELEMENTARY CONSTRUCTION. 3 hours, first semester.

Manual training for the elementary school; practice in exercises used, tool processes, courses of study, equipment, etc. Labs., 3, 3 hours each; lab. fee, \$2.50 per credit hour.

3. CABINET CONSTRUCTION. 3 hours, first semester.

Bench work in wood, principles of joinery, wood turning, use and care of hand tools. Elementary cabinet construction, mill work. Labs., 3, 3 hours each; lab. fee, \$2.50 per credit hour.

4. ADVANCED CABINET CONSTRUCTION. 3 hours, second semester.

Furniture design, the layout and construction of high grade cabinet work of good design. (Materials supplied by students.)

5. CARPENTRY. 3 hours.

Proper methods of using tools, their care and maintenance. Methods of laying out, framing, construction, reading of blueprints. Labs., 3, 3 hours each; lab. fee, \$2.50 per credit hour.

6. FORGE PRACTICE. 2 hours, first semester.

Bending, drawing out, upsetting, forming and shaping, welding, brazing, tempering, case hardening, and tool making. Special emphasis given to agricultural forging. Labs., 3, 3 hours each; lab. fee, \$2.50 per credit hour.

7a, b. ELEMENTS OF DESIGN. 2 hours, throughout the year.

Detailed study of the fundamental principles of design, balance, rhythm and harmony, in line, space, and color. Labs., 2, 3 hours each.

8. APPLIED DESIGN. 2 hours, first semester.

The application of the principles of design in the designing of artistic forms and the enrichment of the surface of the various objects of utility and beauty used in the home. Labs., 2, 3 hours each.

9. ADVANCED DESIGN. 2 or 3 hours, second semester.

Continuation of Course 8, but in more advanced projects. Labs., 2 or 3, 3 hours each.

10. COMMERCIAL ARTS. 3 hours, second semester.

Application of drawing and painting to commercial work, poster designing, book and magazine illustration, etc. Labs., 2, 3 hours each.

11. INTERIOR DECORATION. 5 hours.

Decoration of the home, space relations, color schemes, etc. Lects., 4; lab., 1, 3 hours.

12a, b. CRAFT WORK. 5 hours, throughout the year.

Bookbinding, leather tooling, wood carving, art metal, and jewelry are the subjects taken up, usually one subject per semester. Lects., 2; labs., 3, 3 hours each; lab. fee, \$3.00 per credit hour.

13. SHOP INSTALLATIONS. 3 hours, second semester.

Detailed study of buildings and equipments required for manual training departments, layouts of machines, methods of erecting, designing of belt drives, shafting hangers, etc.

14. STRENGTH OF MATERIALS. 3 hours, second semester.

Elementary course in strength of materials and materials of construction.

15. AUTOMOBILE OPERATION AND REPAIR. 3 hours.

Study of mechanical principles underlying automobile operation, common troubles, repairs. Labs., 3, 3 hours each; lab. fee, \$2.50 per credit hour.

16. ELECTRIC WIRING. 3 hours.

Elementary circuits, exercise in bell wiring, and lighting installations. Labs., 3, 3 hours each; lab. fee, \$2.00 per credit hour.

17. PIPE FITTING. 2 hours.

Study of piping, exercises in installing pipe lines for water, steam or gas. Labs., 2, 3 hours each; lab. fee, \$2.00 per credit hour.

18a, b. PRINTING. 3 hours.

Practice in the various operations carried on in a job printing office, for those who wish to operate a school press and teach printing in the high school. Labs., 3, 3 hours each; lab. fee, \$2.00 per credit hour.

19. TEACHING OF MANUAL ARTS. 2 hours, first semester.

Lectures and recitations covering normal training for the elementary school; practice in exercises used, tool processes, courses of study, equipment, etc.

20a, b. PRACTICE TEACHING. 2 hours, throughout the year.

Practice teaching is required for graduation from the four-year course in manual arts. Ample provisions are furnished in the city schools both in equipment and supervision.

The description of the following courses will be found included in the list of courses given in the College of Education, where the curriculum for manual and industrial arts will also be found:

Elementary and General Psychology, School Management, Principles of Education, History of Education, Organization and Administration of Vocational Education, Teaching of Vocational Education, Curriculum Building, Teaching Special Subjects, Tests and Measurements, Vocational Guidance.

The description of the courses in English, Mathematics, Science, Language, etc., will be found in the list of courses of the College of Liberal Arts.

THE COLLEGE OF PHARMACY

GENERAL INFORMATION

The College of Pharmacy, which was organized about thirty years ago with but three or four students, has met with great success. The graduates from the regular degree courses of this department now total in the neighborhood of 1,300, besides a large number of other students who have taken special work. These students are to be found in practically every city and town throughout the central and middle western states. The object of the school is to meet the demand for men and women thoroughly grounded in the scientific knowledge of pharmacy and at the same time adequately trained in laboratory practice, who can enter stores, wholesale houses, chemical and pharmaceutical laboratories, equipped from the beginning to do the work before them. That the school meets this need is evidenced by the encouragement and support which it has received since its doors were opened.

PRACTICE OF PHARMACY

The elevation of legal standards for the licensing of pharmacists within recent years has raised the pharmaceutical profession to a plane superior, in many respects, to that which it formerly occupied. The reputable pharmacist ranks next to a physician in a community both in service and responsibility. This increased educational requirement tends to raise the morals of the drug business, to remove from it the taint of mere commercialism, and to place it on a professional basis. The character of the work, the movement to shorten the hours of work in drug stores, and the comparative certainty of the business make it an attractive occupation.

PREPARATION

Thorough preparation has become not only desirable, but necessary. The serious responsibilities of the druggist and the constantly advancing legal requirements in nearly all states have made this true. Experience in a store, though having advantages of studying certain commercial and practical phases of the business, does not give one the accurate scientific knowledge and the professional breadth of the true pharmacist, qualities so essential to anything beyond mere material success. Moreover, the extensive manufacturing of proprietary drugs by individual druggists, the more careful diagnosis of pathological conditions by physicians, making it necessary for them to call to their aid the trained bacteriologist and chemist, together with many other circumstances, are constantly widening the field and discovering new opportunities for the educated pharmacist. Nothing short of careful technical training in a good school of pharmacy will any longer suffice to meet these requirements.

AMERICAN CONFERENCE OF PHARMACEUTICAL FACULTIES

Highland Park College of Pharmacy holds membership in the American Conference of Pharmaceutical Faculties, an organization composed of about forty-eight colleges of pharmacy. It was organized expressly

for the purpose of raising the standards of pharmaceutical education and of pharmacy schools. That it has been successful is evidenced by the fact that a number of states now have prerequisite laws recognizing its standards. Schools that are members of the Conference are required to maintain certain minimum requirements for entrance and graduation.

EXPERIENCE UNNECESSARY

While it is by no means necessary that the prospective pharmacy student have drug store experience before entering upon his course, it is advisable that he obtain, if convenient, at least a year and a half or two years of experience. By so doing he will be able to take the examination at once after the college course is completed. According to the new Iowa pharmacy law, at least two years of experience are required in addition to the college course. Three months of this experience can be obtained during the vacation between the Junior and Senior years.

In some states two years in college are counted as two years of experience; but in others only actual time spent in college is counted.

LABORATORIES AND EQUIPMENT

The College of Pharmacy is in Science Hall, a brick structure five stories high, covering a ground space of 98x102 feet, and furnished with steam heat, water, gas and electricity. The pharmacy laboratories occupy the upper floor, thus having excellent ventilation and overhead lighting. They are spacious and well arranged, and are equipped each for its particular kind of work.

During the past year the management of the University has gone to a great deal of expense in constructing and equipping new chemical laboratories on the fourth floor of Science Hall, in close proximity to the College of Pharmacy. These laboratories consist of a general laboratory for inorganic and qualitative work, a laboratory for volumetric analysis, and a laboratory for organic chemistry.

ADVANTAGES

Among the advantages of the College of Pharmacy are its location in the capital city and its close association with the other departments that go to make up the University. Though occupying quarters of its own, especially designed for its use, it is an integral part of the institution. The student of pharmacy is thrown constantly with others in the Colleges of Engineering, Arts and Sciences, Education, Music, etc., and may without extra charge pursue studies in many of these courses. In Des Moines, too, the pharmacy student has the advantage of contact with wholesale and retail drug manufacturing establishments, and other industries and institutions. He has the opportunity also of coming into close touch with the State Board examinations, four of which are held at the State House in the city of Des Moines. Those desiring city experience are afforded ample opportunity in the large number of prescription drug stores in this city. Many students are able to pay a portion of their expenses while attending college.

THE IOWA PHARMACY LAW

The present pharmacy law of Iowa requires that a candidate for registration must have at least two years' drug store experience and must also have completed two years of work in a recognized college of pharmacy of such standing as is required by the American Conference of Pharmaceutical Faculties. The candidate is required to be twenty-one years of age for full registration. Those who have not attained

this age may take the examination and register as assistants. Assistants' certificates will be exchanged for full registration without further examination when the person has attained the age of twenty-one years. An additional year of college work beyond the required two years counts the same as a year of practical experience.

POSITIONS

The College of Pharmacy cannot supply the demand for its graduates. Practically every student of this department is located in a position before he has completed his course. The opportunities for obtaining positions in pharmaceutical lines have never been greater or more certain than at the present time. Every reasonable effort is made to assist students in obtaining good positions.

Men and women are admitted on equal terms. The practice of pharmacy offers excellent advantages to women, much of the work being of a character for which they are naturally well fitted. There are always women enrolled in the department, and a number of those who have graduated are now successful practicing pharmacists.

ADMISSION REQUIREMENTS

Evidence of the satisfactory completion of education beyond the eighth grade equivalent to high school graduation with 15 units credit is required for unconditional admission.

Students may be admitted conditionally on 14 units, provided the other unit is made up before they enter the work of the second year.

Those who cannot present the required certificate of high school credits may be admitted by passing examinations in enough approved entrance subjects to total at least 14 units.

Students presenting credits from other accredited schools of pharmacy having the same entrance requirements are admitted to advanced standing. This standing, however, is conditioned upon the student's demonstrating his proficiency by work in the institution.

THOSE LACKING PREPARATION

Those deficient in preparation will find an opportunity to make up all required subjects in the preparatory school of the University, known as the University Institute. This will be of particular advantage to those young people who may be lacking a few credits of completing a high school course.

SPECIAL STUDENTS

Those who have not had the necessary high school education may be permitted to enter for special work, provided they are at least twenty-one years of age and have had sufficient drug store experience. They will be permitted to elect such studies as they may desire, but they will not be candidates for degrees.

TIMES OF ENTRANCE

The College of Pharmacy offers two opportunities each year for entrance:

At the opening of the first semester in September.

At the opening of the second semester about the first of February. (See University Calendar.)

The great body of regular students enter at the beginning of the first semester of the year, and it is desirable that all who can do so should enter at that time.

COURSES OF STUDY: REQUIREMENTS FOR GRADUATION

The College of Pharmacy offers three courses of study, as follows: The regular two-year course, covering a period of thirty-six weeks in each year, or a total of seventy-two weeks, and leading to the degree of Graduate in Pharmacy (Ph.G.); a three-year course of thirty-six weeks each, leading to the degree of Pharmaceutical Chemist (Ph.C.); and a four-year course, leading to the degree of Bachelor of Science in Pharmacy (B. S. in Pharm.).

The two-year course meets the requirements of the Iowa law, and gives an excellent foundation in prescription work and for those desiring to conduct drug stores.

The three-year course consists very largely of advanced work in analytical chemistry during the third year, many of the subjects being elective. It is a continuation of the Ph.G. course.

The four-year course is also a continuation of the Ph.G. course, the second two years being devoted largely to work in the Liberal Arts College. Credits for liberal arts work from other colleges may apply on this course.

GRADUATE IN PHARMACY

FIRST YEAR

| First Semester | | | | Second Semester | | | |
|------------------|-------------|-----------------------------|------------------------------|------------------|-------------|-----------------------------|------------------------------|
| | Cr. Hrs. | Clock Hrs. per Wk. | Clock Hrs. per Sem. | | Cr. Hrs. | Clock Hrs. per Wk. | Clock Hrs. per Sem. |
| Biology | | | | Biology | | | |
| 121 Botany | 3 | 3 | 54 | 5 Physiology | 2 | 2 | 36 |
| 122 Microscopy | 1 | 3 | 54 | 6 Physiol. Lab. | 1 | 3 | 54 |
| Chemistry | | | | Chemistry | | | |
| 101a Inorg. | 3 | 3 | 54 | 101b Inorg. | 3 | 3 | 54 |
| 102a Inorg. Lab. | 2 | 6 | 108 | 102b Inorg. Lab. | 2 | 6 | 108 |
| Pharmacy | | | | 103 Qual. Anal. | 1 | 1 | 18 |
| 1 Theory | 3 | 3 | 54 | Materia Medica | | | |
| 5a Lab. | 2 | 6 | 108 | 1 Pharmacog. | 5 | 5 | 90 |
| 12 Arith. | 3 | 3 | 54 | Pharmacy | | | |
| | | | | 9 Lab. Quiz | 2 | 2 | 36 |
| | 17 | 27 | 486 | 5b Lab. | 2 | 6 | 108 |
| | | | | | 18 | 28 | 504 |

SECOND YEAR

| First Semester | | | | Second Semester | | | |
|--------------------|-------------|-----------------------------|------------------------------|------------------|-------------|-----------------------------|------------------------------|
| | Cr. Hrs. | Clock Hrs. per Wk. | Clock Hrs. per Sem. | | Cr. Hrs. | Clock Hrs. per Wk. | Clock Hrs. per Sem. |
| Biology | | | | Biology | | | |
| 25 Bacteriol. | 1 | 1 | 18 | 123 Hist. Pharm. | 3 | 9 | 162 |
| 26 Bacteriol. Lab. | 2 | 6 | 108 | Chemistry | | | |
| Chemistry | | | | 105 Quant. | 2 | 2 | 36 |
| 111 Organic | 4 | 4 | 72 | 106 Quant. Anal. | 3 | 9 | 162 |
| 112 Org. Lab. | 1 | 3 | 54 | Materia Medica | | | |
| Materia Medica | | | | 3 Toxicology | 2 | 2 | 36 |
| 2 Mat. Med. | 4 | 4 | 72 | Pharmacy | | | |
| Pharmacy | | | | 3 U. S. P. | 3 | 3 | 54 |

| | | | | | | | |
|-----------|---------------|---------------|-------|---------------|-------|-------|-------|
| 2 Pharm. | 4 | 4 | 72 | 7 Presc. Lab. | 2 | 6 | 108 |
| 6 Lab. | 1 | 3 | 54 | 8 Presc. Quiz | 1 | 1 | 18 |
| 13 Juris. | $\frac{1}{2}$ | $\frac{1}{2}$ | 9 | 14 Bus. Adm. | 2 | 2 | 36 |
| | <hr/> | <hr/> | <hr/> | | <hr/> | <hr/> | <hr/> |
| | 17½ | 25½ | 459 | | 18 | 34 | 612 |

PHARMACEUTICAL CHEMIST

THIRD YEAR

| First Semester | | | | Second Semester | | | |
|--------------------|-------------|-----------------------------|------------------------------|--------------------------------|-------------|-----------------------------|------------------------------|
| | Cr. Hrs. | Clock Hrs. per Wk. | Clock Hrs. per Sem. | | Cr. Hrs. | Clock Hrs. per Wk. | Clock Hrs. per Sem. |
| Chemistry | | | | Chemistry | | | |
| 3 Adv. Inorg. | 2 | 2 | 36 | 10 ⁴ Food Anal. | 2 | 6 | 108 |
| 4 Adv. Qual. Anal. | 2 | 6 | 108 | 10 ⁶ Biochem. Anal. | 2 | 6 | 108 |
| 10 Sp. Quant. | 2 | 6 | 108 | 13 Adv. Org. | 3 | 3 | 54 |
| 25 Biochem. | 3 | 3 | 54 | Elective | 3 | .. | .... |
| 26 Bio. Lab. | 2 | 6 | 108 | Materia Medica | | | |
| Materia Medica | | | | 4 Toxicol. | 3 | 7 | 126 |
| 5 Synthetics | 2 | 2 | 36 | Pharmacy | | | |
| Pharmacy | | | | 11 Research | 3 | 9 | 162 |
| 10 Adv. Lab. | 2 | 6 | 108 | | <hr/> | <hr/> | <hr/> |
| Elective | 2 | .. | .... |  | 16 | 31 | 558 |
| | <hr/> | <hr/> | <hr/> | | | | |
| | 17 | 31 | 558 | | | | |

BACHELOR OF SCIENCE IN PHARMACY

This degree requires two years (64 semester hours), in addition to the Ph.G. course, according to the following schedule:

| | Hours |
|--|---------|
| English | 10 |
| *Foreign Languages | 6 to 10 |
| Mathematics or Physics | 10 |
| Advanced Chemistry and Pharmacy..... | 18 |
| History | 6 |
| Physical Education | 4 |
| Electives in subjects other than Mathematics, Science, and Pharmacy | 6 to 10 |

*Presupposing two years in high school. If all the foreign language is taken in college, two years' work meets the requirement.

DESCRIPTION OF COURSES

(See also College of Liberal Arts)

MATERIA MEDICA

1. PHARMACOGNOSY. 5 hours, second semester.

This course embraces the study of the vegetable drugs and animal products, their identification, Latin name, English name, botanical and zoological origin, synonyms, habitat, description, structure, properties, preservation and adulteration. The work consists of lectures and recitations.

2. MATERIA MEDICA. 4 hours, first semester.

The course embraces the study of the constituents action, doses and therapeutical properties of the organic drugs. This course also includes a careful study of serums, vaccines, and other biological products. Open only to Seniors.

TOXICOLOGY. 2 hours, second semester.

A course embracing a study of the action of poisons together with the diagnosing and antidotal treatment. Open only to Seniors.

TOXICOLOGY. 3 hours, second semester.

This course consists of both lectures and laboratory work and is confined largely to the identification and detection of poisons. Lect., 1; labs., 3 hours each. Required for Ph. C. Course.

SYNTHETICS. 2 hours, first semester.

An advanced lecture course for Ph. C. students going into the chemical structure, composition, and uses of the synthetic drugs of the modern materia medica. Required for Ph. C. Course.

PHARMACY

The laboratory fee for each course in pharmacy is \$2.75 per credit hour; a breakage deposit of \$6.00 is required of each student for each course.

THEORY. 3 hours, first semester.

This course embraces a thorough and practical discussion of the theory and practice of pharmacy, including a study of the various processes used in pharmacy, together with the apparatus used in connection with these processes.

PHARMACY. 4 hours, first semester.

The course is a continuation of the first year's work and includes a careful study of inorganic and organic chemicals. Open to Seniors only.

U. S. PHARMACOPOEIA. 3 hours, second semester.

The course consists of a general review of pharmacy as well as a study of the U. S. P. drugs, chemicals, and preparations. Open to Seniors only.

NATIONAL FORMULARY. 2 hours, second semester.

A course confined to a study of the preparations of the N. F. drugs.

a, b. PHARMACY LABORATORY. 2 hours, throughout the year.

A laboratory course consisting of manufacturing chemistry and pharmacy. A large number of the most practical of the U. S. P. and N. F. products are prepared during this time. Labs., 2, 3 hours each.

c. PHARMACY LABORATORY. 1 hour, first semester.

This course consists of the manufacture of some of the more common organic chemicals that are found at the prescription counter for the purpose of familiarizing the student with the characteristics of these chemicals. Lab., 1, 3 hours.

d. PRESCRIPTION LABORATORY. 2 hours, second semester.

A laboratory course extending over the last semester of the Senior year and consisting of the compounding and dispensing of a large variety of prescriptions, including pills, emulsions, suppositories, ointment mixtures, powders, capsules, troches, etc. The prescriptions given the student are of such a nature as to require work and skill. Students are required to make copies, check, file, write directions, and carry out every detail that should be carried out in a drugstore. Labs., 2, 3 hours each.

e. PRESCRIPTION QUIZ. 1 hour, second semester.

This class work gives the instructor an opportunity to quiz the student concerning his laboratory work and to take up and discuss many other questions pertaining to the work. Scoville's Art of Compounding is used as a text.

9. PHARMACY LABORATORY QUIZ. 2 hours, second semester.

This course consists of a quiz and discussion on the work done in the pharmacy laboratory.

10. ADVANCED PHARMACY LABORATORY. 2 hours, first semester.

In this course some of the more difficult pharmaceutical products are prepared and assayed, according to official methods. The manufacture of toilet articles is also taken up in connection with this course. Labs. 2, 3 hours each.

11. PHARMACEUTICAL RESEARCH. 3 hours, second semester.

It is the intent of this work to not only manufacture the article by various approved methods but to also, if possible, discover better methods of procedure. Labs., 3, 3 hours each.

12. PHARMACEUTICAL ARITHMETIC. 3 hours, first semester.

This course consists of the application of arithmetic to the processes of pharmacy and is undoubtedly one of the most practical and valuable studies in the entire course. A careful study is made of metric and English systems of weights and measures, relationship of systems, specific gravity, reducing and enlarging formulas, proportion, percentage alligation, etc.

13. PHARMACEUTICAL JURISPRUDENCE. $\frac{1}{2}$ hour, second semester.

A course consisting of lectures intended to give the student a comprehensive idea of the pharmacy laws and their bearing on the pharmacist.

14. PHARMACEUTICAL BUSINESS ADMINISTRATION. 2 hours, first semester.

This course is intended to meet the tremendous demand on the part of druggists for clerks having a more thorough knowledge of business principles and includes a short and practical course in accounting, as related to daily sales records, discounting, inventories, and general store management. It also includes psychology of selling, service and treatment of customers, pricing, buying, card writing, window and show case displays, and numerous other forms of effective and well placed advertising.

THE SCHOOL OF FINE ARTS

FACULTY

JOHN W. MILLION, A. M., LL. D.

President

LORAN D. OSBORN, Ph. D.

Chancellor

RAYMOND NORMAN CARR, A. B.

Dean of the School of Fine Arts

Professor of Voice and Public School Music

Director of the Choral Union

3800 Fourth Street

A. B., Shurtleff; graduate, Northwestern University School of Music;
graduate student, University of Chicago; Special Training;
Des Moines University, '21

EDITH M. USRY, A. B., Mus. B., A. A. G. O.

Professor of Pianoforte, Organ, Theory.

3825 John Lynde Road

A. B., Mus. B., Oberlin; Special training; Des Moines College, '12-'15; '17

WALTER L. ROOSA, A. B.

Professor of Violin

Director of the University Orchestra

3804 Fifth Street

A. B., Syracuse; Special training; Des Moines University, '22

HENRIETTA EMMONS ISAACS, Mus. B.

Professor of Pianoforte and Organ

837 Seventeenth Street

Mus. B., Albert Lea; Special training; Des Moines University, '22

SUSAN B. EDDY

Instructor in Voice

Victoria Hotel

Special training; Des Moines College, '18

ALMA L. GARBER, Mus. B.

Instructor in Pianoforte

1815 Ninth Street

Mus. B., Des Moines; Des Moines College, '17

HELEN L. WARREN, A. B.

Instructor in Voice

2714 Ingersoll Avenue

A. B., Grinnell; Special Training; Des Moines University, '22

WILLARD A. MOORE

Instructor in Flute

1528 Carpenter Avenue

Des Moines University, '22

ROBERT G. WILLAMAN

Instructor in Clarinet

1246 Fourth Street

Des Moines University, '22

FRAYNE ROBYNS
678 Fortieth Street
Director of the University Band

E. GRACE HULSE
Assistant in Pianoforte
Eleanor Childs Hall
Des Moines University, '22

MARY MCCAY ENGBERG
Assistant in Pianoforte
3306 Third Street
Des Moines University, '22

EMILY R. TALBOTT
Instructor in Drawing and Painting
3200 Cornell Avenue
Washington University; St. Louis School of Fine Arts; Chicago Art
Institute; Des Moines College, '09-'18, '20

LAURA M. WILLIAMSON, A. B.
Instructor in Dramatic Art
718 Clinton Avenue
A. B., Iowa; School of Oratory, Northwestern University; American
Academy of Art; Des Moines University, '21

JAMES R. VAUGHAN
Business Manager

GENERAL STATEMENT

The School of Fine Arts is one of the constituent divisions of the University. It is under the direction of a Dean of its own, supported by a capable and thoroughly trained faculty. There are three main departments in the school,—the Conservatory of Music, the Department of Drawing and Painting, and the Department of Dramatic Art.

The School of Fine Arts occupies the first floor of Science Hall and parts of the second and fifth floors. The Department of Dramatic Art and the Little Theatre are on the fifth floor of Science Hall. The Department of Drawing and Painting is on the fifth floor of the Administration Building. There are about twenty rooms, including offices, studios, recitation rooms, and practice rooms. Recently there have been installed two new Steinway grand pianos; an Estey electric two-manual and pedal practice organ; five new Schiller Conservatory special practice pianos, equipped with Wessel, Nickel and Gross action; and a Columbia school model grafonola. The equipment of the Conservatory also includes two Weber concert grand pianos, and a library of books on music and phonograph records. The University Chapel serves admirably as a recital hall and also as an auditorium for operatic, dramatic, and other performances.

Des Moines University and the City of Des Moines afford opportunity to hear the world's best on the concert and dramatic stage, including such world-renowned artists as Galli-Curci, John McCormick, Schumann-Heink, Clarence Whitehill, Frieda Hempell, the Devereaux Players, the Flonzaley Quartet, Robert Mantell, Jascha Heifetz, Fritz Kreisler, and others.

THE CONSERVATORY OF MUSIC

The aim of the Conservatory of Music is to produce musicians of culture and capability. The connection of the Conservatory with the University affords unusual intellectual, religious, and social opportunities.

The Conservatory is located in Science Hall, on the campus, far enough away from the heart of the city to avoid its distractions, yet within easy reach of its advantages. Here are the professors' studios, the class rooms, and the practice rooms. The methods which prevail are those of the best European and American Conservatories.

Students wishing to take the course leading to the degree of Bachelor of Music, or Bachelor of Arts with music as the major subject, must present for admission 15 units of high school work or the equivalent, and must satisfy the Dean of the School of Fine Arts that they have sufficient capacity for music to warrant majoring in this subject. Credit given is based on proficiency attained, as well as on laboratory hours of practice. The specific requirements for graduation are given in the schedules of the several courses in the following pages.

Students in the University Colleges other than the School of Fine Arts may elect courses in the Conservatory of Music totalling not to exceed 30 hours. Ten hours of this amount may be earned in Applied Music (Voice, Pianoforte, Violin, Pipe Organ, or the instruments of the Symphony Orchestra), provided the work done is voted by the Conservatory and College faculties to be equivalent to other work of college grade.

Persons not regularly classed in the University may enroll at any time during the college year for private lessons. Such persons are not required to present any specific number of entrance credits.

REQUIREMENTS FOR GRADUATION

In order to become a candidate for a degree or diploma in music, a student must have fulfilled the admission requirements to the University, including high school graduation with 15 units of credit, or its equivalent. See page 30.

Credit for applied music (Voice, Pianoforte, Violin, etc.) is given on the basis of 1 hour's credit per semester for each 3 hours weekly practice connection with required instruction; e. g., if a student practices an hour a day, 6 days a week, for a semester, he may earn 2 hours credit; 2 hours a day, 4 hours credit, etc. Students earning 4 or 5 hours credit should take at least 2 thirty-minute lessons per week; students earning less than 4 hours credit may take 1 or 2 lessons per week. In all cases the student's credits must be consistent with the amount of time spent in practice.

Credit for all other subjects is given on the basis of 1 hour's credit for each hour per week of attendance at classes requiring preparation; e. g., if a student attends an English or a Harmony class which meets 3 times each week, preparation being required for each lesson, he may receive 3 hours credit at the end of the semester.

Abbreviations: Anal., Analysis

Ear Tr. & St. S., Ear Training and Sight Singing

Edcn., Education

Har., Harmony

Hist., History

L. A., Liberal Arts (English, Languages, History, Mathematics, Science, etc.)

Mus., Music

Phys., Physical

COURSES LEADING TO BACHELOR OF MUSIC DEGREE

MAJOR IN VOICE

| FRESHMAN | | SOPHOMORE | | JUNIOR | | SENIOR | |
|---------------|-----------|---------------|-----------|------------|----|-----------|----|
| Voice | 4 | Voice | 4 | Voice | 6 | Voice | 10 |
| Piano | 6 | Piano | 6 | Piano | 4 | Piano | 4 |
| Harmony | 6 | Har. Anal. | 6 | Counterpt. | 6 | Electives | 16 |
| Ear Tr. & St. | 4 | Hist. of Mus. | 4 | Electives | 14 | | |
| Liberal Arts | 10 | Liberal Arts | 10 | | | | 30 |
| Phys. Edcn. | 2 | Phys. Edcn. | 2 | | 30 | | |
| | <u>32</u> | | <u>32</u> | | | | |

MAJOR IN PIANOFORTE

| | | | | | | | |
|---------------|-----------|---------------|-----------|---------------|----|---------------|----|
| Piano | 10 | Piano | 10 | Piano | 10 | Piano | 10 |
| Harmony | 6 | Har. Anal. | 6 | Counterpt. | 6 | Elective & L. | 20 |
| Ear Tr. & St. | 4 | Hist. of Mus. | 4 | Elective & L. | 14 | A. | |
| Liberal Arts | 10 | Liberal Arts | 10 | A. | | | 30 |
| Phys. Edcn. | 2 | Phys. Edcn. | 2 | | 30 | | |
| | <u>32</u> | | <u>32</u> | | | | |

MAJOR IN VIOLIN

| | | | | | | | |
|---------------|-----------|---------------|-----------|------------|----|-----------|----|
| Violin | 10 | Violin | 10 | Violin | 10 | Violin | 10 |
| Piano | 4 | Piano | 4 | Piano | 4 | Piano | 4 |
| Harmony | 6 | Har. Anal. | 6 | Counterpt. | 6 | Electives | 16 |
| Ear Tr. & St. | 4 | Hist. of Mus. | 4 | Orchestra | 4 | | |
| Liberal Arts | 6 | Liberal Arts | 6 | Electives | 6 | | 30 |
| Phys. Edcn. | 2 | Phys. Edcn. | 2 | | 30 | | |
| | <u>32</u> | | <u>32</u> | | | | |

MAJOR IN PIPE ORGAN

| | | | | | | | |
|----------------|-----------|---------------|-----------|--------------|----|--------------|----|
| Piano | 10 | Piano | 10 | Piano | 10 | Piano | 10 |
| Harmony | 6 | Har. Anal. | 6 | Counterpt. | 6 | Canon, Fugue | 6 |
| Ear Tr. & St. | 4 | Hist. of Mus. | 4 | Instrumentn. | 4 | Instrumentn. | 4 |
| Organ or L. A. | 10 | Organ | 10 | Organ | 10 | Organ | 10 |
| Phys. Edcn. | 2 | Phys. Edcn. | 2 | | 30 | | 30 |
| | <u>32</u> | | <u>32</u> | | | | |

Note—Students in the above courses must present creditably a full evening's program during their Senior year. These programs, except Organ, must be memorized.

THREE-YEAR COURSE IN PUBLIC SCHOOL MUSIC

FRESHMAN

| First Semester | | Second Semester | |
|----------------------------|----------|----------------------------|----------|
| | Hrs. Cr. | | Hrs. Cr. |
| English | | English | |
| 1a Freshman | 3 | 1b Freshman | 3 |
| Psychology | | Psychology | |
| 21 Elementary | 3 | 22 Educational | 3 |
| Theory | | Theory | |
| 1a Harmony | 3 | 1b Harmony | 3 |
| 9a Ear Tr. & Sight Singing | 2 | 9b Ear Tr. & Sight Singing | 2 |
| *Applied Music | 4 | *Applied Music | 4 |
| Physical Education | | Physical Education | |
| 1a Freshman | 1 | 1b Freshman | 1 |
| | <hr/> 16 | | <hr/> 16 |

SOPHOMORE

| | | | |
|---------------------|----------|----------------------------|----------|
| Social Science | | Social Science | |
| Sociology 1 | 3 | Political Science 1 | 3 |
| Theory | | Theory | |
| 2 Harmony | 3 | 3 Harmonic Analysis | 3 |
| History of Music | | History of Music | |
| 1a | 2 | 1b | 2 |
| Education | | Public School Music | |
| 1 School Management | 3 | 4 Music Appreciation Meth. | 2 |
| *Applied Music | 4 | Physics | |
| Physical Education | | 4 Physics of Music | 2 |
| 2a Sophomore | 1 | *Applied Music | 3 |
| | <hr/> 16 | Physical Education | |
| | | 2b Sophomore | 1 |
| | | | <hr/> 16 |

JUNIOR

| | | | |
|-------------------------------|----------|-----------------------------|----------|
| Education | | Education | |
| 2a History | 2 | 2b History | 2 |
| Theory | | 3 Principles | 2 |
| 4 Counterpoint | 3 | Theory | |
| Public School Music | | 5 Musical Form | 3 |
| 1 Prim. & Inter. Grade Super. | 2 | Public School Music | |
| 3 Orchestra Methods | 2 | 2 Gram. Grade & H. S. Music | 2 |
| *Applied Music | 3 | *Applied Music | 2 |
| Liberal Arts Elective | 4 | **Free Elective | 5 |
| | <hr/> 16 | | <hr/> 16 |

*Applied Music may include Pianoforte, Voice, Violin, or Organ, according to the needs of the individual students, with the advice of the faculty.

**Electives may include Liberal Arts or Fine Arts (Music, Dramatic Art, etc.), with the advice of the faculty.

Upon the satisfactory completion of the above course, the student will, without further examination, be given the third grade state teachers certificate.

FOUR-YEAR COURSE IN PUBLIC SCHOOL MUSIC

This course follows in large part the recommendations of the Music Supervisors National Conference. Upon its completion, the student will be given the degree of Bachelor of School Music by the University, and the first grade state teacher's certificate. The course includes, in addition to the work of the three-year course outlined above, the following:

| SENIOR | | | |
|-------------------------|----------|---------------|----------|
| Education | | Education | |
| Elective | 2 | Elective | 3 |
| Theory | 2 | Theory | 2 |
| Public School Music | | Applied Music | 5 |
| 6 School Music Adminis. | 2 | Free elective | 5 |
| Applied Music | 6 | | |
| Liberal Arts Elective | 3 | | |
| | <hr/> 15 | | <hr/> 15 |

BACHELOR OF ARTS IN MUSIC

For a major in music the student must earn a minimum of twenty-eight hours in that subject, including not less than seventeen hours in theoretical music. For a minor the student must earn sixteen hours, including not less than ten hours in theoretical music. Credits earned in elementary piano may be credited toward the degree, but they may not be included in the major.

The candidate for this degree will not be required to present a full memorized program of music, but by the end of four years he should be able to perform in public acceptably. The emphasis will be placed on the scientific, appreciative, historical, and sociological aspects of music.

If in connection with his Bachelor's degree the student wishes to receive also a first grade state teacher's certificate he must earn, in addition to the foregoing, a minimum of fourteen hours in education and six hours in psychology.

This course is offered in the College of Liberal Arts as an alternative to the course leading to the degree of Bachelor of Music in the School of Fine Arts, for those who wish to attain some degree of musical culture, but at the same time to elect a more general course. A total of not more than thirty hours may be elected in music, not more than ten hours of which may be in applied music.

Two hours of chorus or orchestra, representing a minimum of four semesters of work, must be included in the above course.

Not more than ten hours in applied music are accepted toward the A. B. degree, and not more than twenty hours in Theory and Harmony.

DESCRIPTION OF COURSES

VOICE

One to five hours, by arrangement, throughout the year.

First Year. The principles of tone production. Breath control. Exercises to develop, beautify and strengthen the singing tones. Elementary diction. Singing of songs.

Second Year. Additional work in exercises and diction. Simple songs and arias from operas and oratorios. Singing before an audience.

Third Year. Exercises for more highly developed technique. Advanced work in diction. Singing the more difficult songs by the great masters. Creditable rendition of the more difficult songs from operas and oratorios. Public recital from memory.

Fourth Year. Extension of repertoire of songs from representative folk songs, ballads, art songs, opera and oratorio from the classic and modern composers. Teaching pieces. Interpretation. Ensemble. Public recitals.

PIANOFORTE

One to five hours, by arrangement, throughout the year.

The course of study includes technical exercises which are intended to give control of the fingers, hands and arms; etudes which are intended to develop not only greater executive powers, but also an intellectual grasp of the higher forms of musical expression; compositions by the best writers for aesthetic development. The details of the course are adapted to the individual needs of each student, the purpose being to develop a musicianly and masterful style of playing.

VIOLIN

One to five hours, by arrangement, throughout the year.

Complete preparatory, general and professional course. Review and application of ear training and sight singing to instrumental instruction. Principles of tone production, bowing exercises adapted to individual problems of hand and arm. Formative exercises for the left hand. Progressive treatment of technical and interpretative problems, with constant attention to development of efficient habits of study, adequate and well rounded technical equipment, and genuine artistic insight. With students preparing for professional careers special attention is given to the early acquisition of solo and ensemble repertoire.

PIPE ORGAN

Two to five hours, by arrangement, throughout the year.

Prerequisite, moderate pianoforte technique and ability to read at sight.

Organ keyboard and pedal technique are acquired simultaneously with facility in registration. All students are advised to study instrumentation in conjunction with pipe organ on account of the increasing number of orchestral organs which are being installed in theaters, as well as churches.

INSTRUMENTS OF THE ORCHESTRA

One to four hours, by arrangement, throughout the year.

The instruments of the Symphony Orchestra are taught by specialists in the respective instruments. Attention is given primarily to tone, technic, and the mastery of the instrument in solo and ensemble playing.

THEORY

1a, b. HARMONY. 3 hours, throughout the year.

Musical notation, keys, scales, signatures, intervals, the triad, simple part writing from given basses and sopranos. Chords of the seventh. simple modulation. Harmonizing chorales, melodies and figured basses.

Practical application of this work in exercises played at the piano. Harmonizing melodies which modulate. Advanced study of secondary sevenths. Exercises in modulation at the piano. The text-book is "Lessons in Harmony," by Heacox and Lehmann.

2. **HARMONY.** 3 hours, first semester.

Chromatically altered chords, enharmonic changes, modulation by these means. The progressions involved are played at the piano. Suspensions, retardations, appoggiaturas, anticipations, passing tones, embellishments, pedal points, melodic figuration and accompaniment. The text book is "Lessons in Harmony," by Heacox and Lehmann. Prerequisite: Course 1.

3. **HARMONIC ANALYSIS.** 3 hours, second semester.

Analysis of the works of the masters. The text-book is "Harmonic Analysis," by Cutter. Review of harmony at the piano, all exercises being played, including difficult sight playing tests. The text-book is "Keyboard Training in Harmony," by Heacox. Prerequisites: Courses 1a, b and 2.

4. **SIMPLE COUNTERPOINT.** 3 hours, first semester.

Counterpoint in two, three and four parts in the five species. Study of the motet and writing in this form. The text-book is "Simple Counterpoint," by Lehmann. Prerequisites: Courses 1a, b, and 2.

5. **MUSICAL FORM.** 3 hours, second semester.

Study of the development of forms with analysis of classic and modern types. The text-book is "Musical Form," by Bussler-Cornell, supplemented by a wide range of compositions. Prerequisites: Courses 1a, b, 2 and 3.

6. **DOUBLE COUNTERPOINT AND CANON.** 3 hours, first semester.

Double, triple and quadruple counterpoint. Analysis of Bach's "Inventions." Counterpoint in five to eight real parts. Strict canon in two, three and four parts. Prerequisites: Courses 1a, b, 2, and 4.

7. **FUGUE.** 3 hours, second semester.

Fugue in two, three and four voices. Comparison of the school fugue with important fugues by the masters. Prerequisites: Courses 1a, b, 2, 4, and 6.

8a, b. **INSTRUMENTATION.** 2 hours, throughout the year.

Reading at the piano of classic and modern string quartet and orchestral scores. Arranging compositions for orchestra. Prerequisite: Courses 1a, b, 2, 3, 4 and 5.

9a, b. **EAR TRAINING AND SIGHT SINGING.** 2 hours, throughout the year.

Taken simultaneously with Harmony 1. Major and minor scales, writing melodies from dictation, studies in rhythm, chords, chord progression and modulation. Short themes from the works of the masters, short two-part phrases in canon form, the subject and answer of simple fugues. Especial emphasis is laid on sight singing. The text-books are "Ear Training," by Heacox, and "Melodia," by Cole-Lewis.

HISTORY AND APPRECIATION OF MUSIC

1a, b. 2 hours, throughout the year.

The course covers the history from the earliest times to the present. Historical development, appreciation and criticism are taught.

PUBLIC SCHOOL MUSIC

1. **PRIMARY AND INTERMEDIATE GRADE SUPERVISION.** 2 hours, first semester.

Detailed and practical study of the problems incident to the teaching of music and supervising of the teaching of music in the first six grades; song presentation; tonal and rhythmic sense; child voice; monotonous; song material; sight singing; notation; dictation; requirements and attainments of each grade.

2. **GRAMMAR GRADE AND HIGH SCHOOL MUSIC.** 2 hours, second semester.

Study of the problems from the seventh grade through the high school;

the changing voice; voice testing; the alto tenor; part singing; organization and training of choruses and glee clubs; the use of the baton; discussion of the teaching of theory, appreciation, and applied music; materials and repertoire; model course of study.

3. ORCHESTRA METHODS. 2 hours, first semester.

The organization and training of orchestras and bands in the intermediate and upper grades and high school; the tuning, care and function of each instrument; study and arranging of simple orchestral scores; the development of orchestral material; the modern class method of instrumental instruction; use of the baton and orchestral conducting; repertoire.

4. MUSIC APPRECIATION METHODS. 2 hours, second semester and summer session.

A definite and systematic course to prepare supervisors and teachers in grade and high schools to teach pupils to listen intelligently to music; study of the various forms of vocal and instrumental music; the historical and national significance of representative types; practical illustrative work through the use of the phonograph; methods of presentation carefully and pedagogically developed from the primary grades through the high school.

5. NORMAL MUSIC COURSE. 2 hours, summer session.

Rudiments of music; rural school music problems; song methods; materials. For students wishing to pass examination for teacher's certificate. Three hours weekly recitation required.

6. SCHOOL MUSIC ADMINISTRATION. 2 hours, first semester.

A course in the broader and more advanced problems of School Music; the choosing and training of assistants and special teachers; the problem of the unsympathetic or unmusical grade teacher; the supervisor and his relationships with the various members of the teaching and administrative force; his attitude toward the various phases of community music, such as choirs, music clubs, municipal music, etc.; review of teaching methods; the music supervisor as an educator, and as a pioneer and leader in the making of a musical people.

146. ELEMENTS OF MUSIC. 2 hours, first semester.

(See under Music, College of Education.)

147. PRIMARY AND INTERMEDIATE NORMAL MUSIC METHODS.

(See under Music, College of Education.)

CHORUS

CHORUS. 1 hour, throughout the year.

Open to all who can read vocal music fairly well, both students and townspeople. All members, whether registered for credit or not, must be punctual and regular in attendance and must appear in public with the organization when requested. Since the material is new each year, the course may be repeated. Three hours weekly attendance required. Credit given only toward Bachelor of Music degree and only after two semesters or the equivalent have been taken without credit.

ORCHESTRA

ORCHESTRA. 1 hour, throughout the year.

Open to all students who can play an orchestral instrument fairly well. Affords opportunity for the study and performance of standard overtures, lighter symphonies, and other forms; concert, oratorio and opera work. Conditions and regulation same as for chorus. Credit given only toward Bachelor of Music degree and only after two semesters or the equivalent have been taken without credit.

TUITION**PRIVATE LESSONS, 30 MINUTES EACH, FOR A SEMESTER OF 18 WEEKS****VOICE**

| | One lesson a week | Two lessons a week |
|--|----------------------|-----------------------|
| Dean Carr | \$54.00 | \$100.00 |
| Students who show commendable ability and consistent advancement may receive a discount from the above prices upon recommendation of the Dean. | | |
| Mrs. Eddy | \$36.00 | \$67.00 |
| Mrs. Warren | 22.50 | 42.00 |

PIANOFORTE

| | | |
|--------------------------------|---------|---------|
| Miss Usry, Mrs. Isaacs | \$36.00 | \$67.00 |
| Miss Garber | 18.00 | 33.50 |
| Miss Hulse, Mrs. Engberg | 13.50 | 25.00 |

VIOLIN

| | | |
|--|---------|---------|
| Professor Roosa | \$36.00 | \$67.00 |
| Class lessons, 4 in a class, 1 hour..... | 18.00 | |

PIPE ORGAN

| | | |
|------------------------------|---------|---------|
| Miss Usry, Mrs. Isaacs | \$36.00 | \$67.00 |
|------------------------------|---------|---------|

BAND INSTRUMENTS

| | | |
|------------------|---------|---------|
| Mr. Robyns | \$27.00 | \$50.00 |
|------------------|---------|---------|

CLARINET AND SAXOPHONE

| | | |
|--------------------|---------|---------|
| Mr. Willaman | \$27.00 | \$50.00 |
|--------------------|---------|---------|

FLUTE

| | | |
|-----------------|---------|---------|
| Mr. Moore | \$27.00 | \$50.00 |
|-----------------|---------|---------|

THEORY AND HISTORY OF MUSIC

| | | |
|----------------------------------|---------|--|
| Class lessons, per semester..... | \$18.00 | |
|----------------------------------|---------|--|

PRACTICE ROOM RENTAL**PIANO, VOICE, VIOLIN, ETC.**

| | | |
|----------------------------------|---------|--|
| Per semester, 1 hour daily | \$ 6.00 | |
|----------------------------------|---------|--|

ORGAN

| | | |
|----------------------------------|---------|--|
| Per semester, 1 hour daily | \$20.00 | |
|----------------------------------|---------|--|

Music students taking work in the College of Liberal Arts pay a tuition fee of \$5.00 per semester hour.

THE DEPARTMENT OF DRAWING AND PAINTING

The Department of Drawing and Painting has three aims, resulting in three lines of work: (1) the training of artists, by means of art courses; (2) normal courses for public school teachers of art; and (3) courses intended primarily for students majoring in other departments of the University.

For schedule of work required in the Supervisors' Course in Art see under the College of Education page 72.

DESCRIPTION OF COURSES

THEORY

1a, b. HISTORY OF ARCHITECTURE, SCULPTURE, AND PAINTING. 2 hours, throughout the year.

A brief comprehensive course. Required of Art Supervisors. Elective for other students.

2a, b. HISTORY OF ARCHITECTURE. 2 hours, throughout the year.

A somewhat technical course covering ancient, mediaeval, and modern architecture, designed especially for Architectural Engineering and Home Economics students, of whom it is required. Elective for other students.

3. COLOR THEORY AND DESIGN. 2 hours, second semester.

A brief course in principles and study of pleasing or harmonious combinations of colors. General principles of design and application to dress, home furnishings and decoration. Required of Home Economics Sophomores and Art Supervisor Freshmen. Prerequisite: Drawing.

5a, b. ELEMENTS OF DESIGN. 2 hours, throughout the year.

This course is planned especially for Manual Arts students. General principles of design and practical application to manual training problems. Required of Manual Arts Sophomores.

6. PRINCIPLES OF PERSPECTIVE. 2 hours, first semester.

Applied to drawing of cylindrical and rectilinear objects. Practical course. Required of Freshman Home Economics and Art Supervisors.

DRAWING

11. ELEMENTARY FREEHAND DRAWING. 1 to 5 hours, throughout the year.

A study of simple forms such as still life, plaster fragments of human figure, and models of natural forms such as fruit or flowers. Pencil rendering. Required of Manual Arts Supervisors, High School Departmental Course, and certain Engineering courses.

12. INTERMEDIATE FREEHAND DRAWING. 1 to 5 hours, throughout the year.

Fragments of human figure and other objects, requiring careful study of contours, light, and shade. Charcoal rendering. Prerequisite: Course 11.

13. ADVANCED FREEHAND DRAWING. 1 to 5 hours, throughout the year.

Drawing from casts or classical sculpture or difficult still life compositions. Charcoal or wash drawing. Required of Art Supervisors.

101. PUBLIC SCHOOL DRAWING. 2 hours, first semester.

A general course, including principles of perspective and application to objects suitable for drawing in public schools. Technique of rendering is studied in outline and simple masses of light and shade; also general principles of composition. Required of Primary and Intermediate Education students, Freshman year.

102. PRIMARY DRAWING. 2 hours, second semester.

Specialized course for those taking Primary Education. Prerequisite: Course 101.

103. GRADE DRAWING. 2 hours, second semester.

Specialized course for those taking Intermediate Education. Prerequisite: Course 101.

PAINTING

21. **WATER COLOR PAINTING.** 2 hours, second semester.

Still life. Prerequisites: Courses 11 and 12, or 101 and 102, or 101 and any one of foregoing courses, and Course 3.

METHODS

31. **METHODS, OBSERVATION, AND PRACTICE TEACHING.** 3 hours, second semester.

Students taking the Art Supervisor's course, as a part of their work, will prepare model lessons; plan work for practice teaching; visit schools for the purpose of observing the work of other teachers and report as to methods and content of work seen.

32. **OUTLINE FOR COURSE OF STUDY.** 2 hours, second semester.

Art Supervisors are required to investigate the various courses of study for public school drawing with view to ascertaining the general plan of work then plan specifically for each grade through the different months of the year.

33. **REVIEW AND TECHNIQUE.** 5 hours, second semester.

In the last semester of the course Art Supervisors review the work in the theory of the course and practice drawing and painting in the different media for technique and method.

PRIVATE LESSONS

Private lessons or classes in Drawing and Painting in any medium, also lettering, household decoration, and other courses not offered above may usually be arranged to meet special needs.

TUITION

Art Courses, class work, per semester.....\$75.00

Private lessons, per semester:

One lesson per week, thirty minutes..... 27.00

Two lessons per week, thirty minutes..... 50.00

THE DEPARTMENT OF DRAMATIC ART**DESCRIPTION OF COURSES**

1a, b. **PUBLIC SPEAKING.** 2 hours, throughout the year.

"A man is not considered educated unless he can present his view clearly and forcibly." The course in public speaking is offered to help the student to do this. There is a minimum amount of theory with a maximum amount of practice. During the year speeches are prepared and delivered, and many extemporaneous talks are given. Attention is devoted equally to thought and delivery.

2a, b. **DRAMATIC INTERPRETATION.** 3 hours, throughout the year.

The philosophy of pantomime and its correlation to speech and emotion are studied. Masterpieces of literature are studied for the purpose of oral interpretation.

3a, b. **PLAY PRODUCTION.** 2 hours, throughout the year.

Problems of entrances, exits, effects, etc., are worked out. Plays are read and staged for criticism before the class. Each student has the experience of producing a play. An exhaustive study of ten plays suitable for high school production is made. Invaluable for students interested in community work or teaching.

TUITION

Private lessons, per semester:

One lesson per week, thirty minutes.....\$27.00

Two lessons per week, thirty minutes..... 50.00

THE UNIVERSITY INSTITUTE

PREPARATORY COURSES

The University Institute is a name used to designate the sub-college courses, in which students who are deficient in their college entrance subjects may remove these conditions and meet the admission requirements to the University.

Young people sometimes lose out in high school, for one reason or another, or fail to wake up to the need of an education until they have passed the high school age. Such students can find courses in the Institute adapted to their needs. The University does not undertake, however, to conduct a complete preparatory school. It merely offers certain courses as a convenience to students who for sufficiently good reasons wish to make up their entrance deficiencies on the University campus. Usually the courses offered will represent only the last year or two of preparatory work.

The Institute serves as the practice school of the College of Education. Thereby the teaching will be under the supervision of expert educators, and rapid progress can be made. Since the classes are not large, students also have greater advantages in the individual attention of instructors.

COMMERCIAL COURSES

Students desiring to take commercial subjects of a sub-college grade may do so in the United Business Institutes, a separate corporation occupying rooms in Science Hall, on the University campus. Instruction is given in bookkeeping, shorthand, typewriting, business English, secretarial work, and other subjects usually offered in a commercial school.

These courses do not carry college credit. They may apply to the extent of four units to fulfill college entrance requirements, but only if taken in residence.

THE UNIVERSITY EXTENSION DIVISION

GENERAL STATEMENT

The University Extension movement in education is comparatively new in the United States, and in its present form is very recent. Experience has already amply demonstrated, however, that many subjects can be taught successfully by correspondence. Indeed, the correspondence instruction method has some distinctive advantages of its own. The student studies with the realization that he is to recite on the entire lesson. Moreover, he recites by means of written work, which involves the digestion of the material and its organization in his own mind of definite expression. It is true that the student misses the personal contact with his instructors, and for this reason correspondence study will never supplant the class room method; but this loss is partly compensated by the fact that the student, in the nature of the case, develops self-reliance, initiative, perseverance, the spirit of investigation, and accuracy of expression.

The purpose of correspondence instruction is to reach that large number of men and women, some of them of mature years, whose duties and responsibilities make them unable to attend college in person. The home study method makes it possible for such people to do systematic and continuous educational work without interfering with the obligations and compensations of their present employment. Indeed, the work is directly intended in many cases to supplement their employment and make it more effective and remunerative. Correspondence study can also be carried on very advantageously by young people who are planning to attend the University later on, and who would like to make up conditions or secure advanced standing before they enroll. It is also a great convenience to students who have been in attendance at the University and have dropped out for a time and who would like an opportunity meanwhile to continue their work.

The correspondence method is not confined to any one kind of students. Any man or woman, be he or she day laborer, school teacher far removed from the college halls, clerk working in the office, club woman desiring to investigate some special topic, banker or business man wishing to keep in touch with educational interests, undergraduates or college graduates,—all of these may find profit and pleasure through the home study method of instruction.

Extension work has now become standardized among the Universities of the United States, and the Extension Division of Des Moines University conforms in all respects to accepted University Extension standards.

WORK AND CREDIT

Each correspondence course of college grade is designed to be equivalent in subject matter to the corresponding resident course. A five-hour course requires an amount of work which a student in residence would be expected to cover in twelve weeks, in a class meeting five hours a week. It is divided into 30 assignments, and earns five term-hours credit. Correspondingly, a four-hour course is divided into 24 assignments, earns four hours credit; a three-hour course, into 18 assignments, three hours credit; and a two-hour course, 12 assignments, two hours credit; the number of hours and credits in each case depending upon the extent of

the subject matter covered in the course. The credits are quarter credits, not semester credits. Divide them by two-thirds to reduce them to semester hours.

Each correspondence course of high school grade is designed to include an amount of work which a student in high school would cover in eighteen weeks, in a class meeting five times per week. It is divided into 30 assignments and earns one credit or one-half unit of high school work.

Many of the home-study courses, however, are not taken for credit, the subjects being purely vocational in character. Such courses also are conducted with careful regard to the requirements of the subject-matter, are of standard educational quality, are divided into definite assignments as are the credit-courses, and the method of procedure in conducting the work is the same.

METHOD OF INSTRUCTION

INSTRUCTORS. All correspondence instruction by Des Moines University is carried on under the immediate supervision of the heads of the various departments, who are responsible for the subject-matter of the courses in their respective departments, for the correction of the assignments, and for the educational guidance of the student.

PROCEDURE. The student enrolls for a certain course upon a specially prepared blank that will be sent from the Extension office upon request. Accompanying his application for enrollment, the student will send the fees for the course, in whole or in part as may be determined. A set of instructions will then be sent him indicating what books he will need for the course and any other necessary data. At the same time he will be sent the first assignments of the course. As soon as he has completed the first assignment he will answer the recitation questions and send his manuscripts to the Extension office. He will then be sent the next assignment beyond those which he received at first; and so on throughout the course. His manuscripts will be returned to him after they have been corrected and graded by the instructor. At the conclusion, there will be an examination covering the work of the entire course. This examination will be given at the University, or locally through some public school official approved by the University. All correspondence should be carried on with the Extension Division office, unless the student wishes to write directly to his instructor concerning questions involving the subject-matter of the course.

STUDY. The student should carefully and faithfully study the work for each assignment before beginning his written recitation, doing in advance all the text book and collateral reading required. He should then write on the assignment without referring in any way to the books which he has studied, and without receiving any outside assistance. He should write in all respects as he would do in a class recitation. The student is placed upon his honor in this regard.

COURSES AND EXPENSES

| | |
|------------------------------------|---------|
| 5-hour course, 30 assignments..... | \$17.50 |
| 4-hour course, 24 assignments..... | 14.00 |
| 3-hour course, 18 assignments..... | 10.50 |
| 2-hour course, 12 assignments..... | 7.00 |

A special Extension bulletin and enrollment blank will be sent on request.

For further information, address,
University Extension Division, Des Moines University,
Highland Park, Des Moines, Iowa.

THE SUMMER SCHOOL

The Summer School of the University offers twelve weeks' work in ten weeks of six days each. This arrangement meets the needs of those who require or desire a three months' course, and, at the same time, makes it possible to finish the work two or three weeks before school opens in the fall.

A wide range of courses is available, to meet the needs of the many types of students seeking summer educational advantages. In the College of Liberal Arts, students may continue the work of the regular college year, if they wish, and thus graduate in three years, including three summer sessions, instead of four years of nine months each. Or, students may take special courses to make up deficiencies or add to their equipment of knowledge. Regular work is also offered during the summer session in the School of Fine Arts, where may be studied, by class work and private lessons, music in its various phases, drawing and painting, and dramatic art. Students who are deficient in their college entrance requirements may make up these conditions in the University Institute.

Courses in Education are especially emphasized, for the accommodation of the increasing number of teachers desiring additional professional training in the summer session. Educational experts, including the regular faculty, are engaged on the summer teaching staff to meet these special requirements. Work in the College of Education for the summer includes:

(1) College Credit Courses in Education, applying on the two-year courses leading to a third-grade state certificate without examination, and on the four-year courses leading to the first-grade state certificate without examination. The college credit courses in the College of Education embrace special work in Primary Training, Home Economics, Manual Training, Agriculture, Psychology, and Educational Subjects.

(2) Certificate Courses, preparing students to take examinations for the first, second, and third grade uniform county certificates, first and second grade state certificates, state diploma, and special primary state certificate.

The Summer School faculty consists mainly of the regular University staff, and students are thereby assured of competent and interested instructors. The class instruction is supplemented by means of lectures given by other men and women of note in the educational world, thus affording a wide range of vision and inspiration. The following speakers are expected for the coming summer:

Dr. Edward T. Devine, one of the foremost social welfare lecturers and workers in the United States. For two days.

Dr. Edward A. Ross, Professor of Sociology in the University of Wisconsin. For two days.

Dr. Ernest Horn, Professor of Elementary Education and Director of the University Experimental School, the State University of Iowa. For two days.

J. W. Studebaker, Superintendent of the Des Moines City Schools.

May E. Francis, State Superintendent of Public Instruction.

Charles F. Pye, Secretary Iowa State Teachers' Association.

The Summer Session counts as two-thirds of a semester, and credit is given on that basis. A special bulletin giving details as to courses and expenses will be sent upon request.

DANISH BAPTIST THEOLOGICAL SEMINARY

(AFFILIATED)

NELS S. LAWD AHL, D. D., *Dean*

HISTORICAL STATEMENT

Theological instruction among Danish Baptists dates back to 1873 when two Danish Baptists received instruction in "The Scandinavian Department" in the old University of Chicago, in 1876. Professor N. P. Jensen, himself a Dane, began instruction in the Danish language in this Scandinavian department and in 1884, when the Swedish Baptists left the "Baptist Union Theological Seminary," which, in 1877, had moved to Morgan Park, Illinois, the Danish-Norwegian department was organized under the leadership of Professor N. P. Jensen. In 1892 the "Baptist Union Theological Seminary" became the "Divinity School" of the University of Chicago, but the Danish department remained at Morgan Park as a department of the Divinity School. Its name was changed to the "Danish-Norwegian Theological Seminary." In the summer of 1912 the authorities of the University of Chicago thought that the time for a change had come, inasmuch as a new arrangement and location would have to be sought. Accordingly, the Danish School Committee went to work. The work, as it outlined itself before this committee, was clear. They would have to find a Baptist School centrally located for missionary work among Danish Baptists, an institution that would be willing to let the Danish theological students receive instruction in the different college classes free of charge in such preparatory studies as the student would require. At the Danish Baptist General Conference at Clarks Grove, Minnesota, September, 1912, the School Committee reported in favor of Des Moines University. This report was received by the Conference with great enthusiasm and it was voted to move the school to Des Moines in the fall of 1913, under the new name of "The Danish Baptist Theological Seminary."

This new school opened its doors for the first time in September, 1913, as an affiliated institution with Des Moines University, and yet at the same time an independent school with a specific work.

INFORMATION AND REGULATIONS

REGULAR COURSE. The regular seminary course covers four years. Two years are given to preparatory studies and two to theological studies.

RULES FOR GRADUATION. In order to graduate from the Seminary in four years, the student will be required to carry three studies a day, five days a week, and at the end of each semester to pass an examination satisfactory to the instructor under whom he has studied. In order to graduate from the Seminary, 120 semester hours will be required, 60 semester hours of preparatory studies and 60 semester hours of theological studies. The Seminary is, however, open to anyone, even though

he is not able to take a regular four years' course. The degree of Bachelor of Theology is conferred upon those who complete, in a satisfactory manner, the prescribed 120 semester hours for graduation. The Seminary is also open for women who desire to take up certain lines of study, preparing them in a general way for missionary work.

FINAL EXAMINATIONS. During the student's last year in school and before his certificate of graduation will be issued, he will be asked to present to the faculty a written thesis on a topic selected by himself in consultation with the dean. He must also pass through a final oral examination covering at least two theological studies.

COURSES TO BE GIVEN DURING THE SCHOOL YEAR 1923-1924

9a, b. **THEORETICAL AND PRACTICAL HOMILETICS.** 5 hours, throughout the year.

At the beginning of this course certain fundamental theories with reference to preaching will be studied. Much of the time, however, will be given to the examination of sermons of preachers of note, to preparing sermons and delivery before an audience of the class.

4. **EXEGETICAL COURSE.** 5 hours, second semester.

The letter to the Romans and Galatians will be taken up for specific study. Introduction of the letter, purpose, argument, Paul's teachings and theology.

10. **INTRODUCTION TO THE OLD TESTAMENT.** 3 hours, first semester.

The Old Testament as a whole, the different books, their authors, time and place of authorship, peculiarities of the different books, formation of the canon, how written and brought together, comparison with other literature.

11. **INTRODUCTION TO THE NEW TESTAMENT.** 3 hours, second semester.

This course takes up practically the same subject pertaining to the New Testament as Course 10 does with reference to the Old.

7a, b. **GREEK FOR BEGINNERS.** 5 hours, throughout the year.

This course is compulsory only for those students who, in the judgment of the faculty, can in a comparatively short time gain a practical and workable knowledge of New Testament Greek.

8. **ENGLISH GRAMMAR, COMPOSITION AND LITERATURE.** For beginners, English I, II, III, IV.

As a knowledge of English among the students of this Seminary will, in the nature of the case, vary greatly, no set rule with reference to classes and school year can be followed. Courses in English of almost every description adapted to the varied needs of the student will be given in the different departments of Des Moines University.

DEGREES CONFERRED

JUNE 7, 1922

HONORARY DEGREE, DOCTOR OF DIVINITY

Newcombe, JohnCumbum, India

CIVIL ENGINEER

Pedersen, Hans Victor.....Des Moines

BACHELOR OF ARTS

Anderson, Rebecca J.....Humboldt
 Barbour, Mary L.....Nodaway
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 Ferguson, Clarence R.....Des Moines
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 Rhyne, Conway Leslie.....Park Rapids, Minn.
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 Thompson, Mildred Lucile.....Des Moines
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 Collins, Willmer Andrew.....Ladysmith, Wis.
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 Deskin, Norris C.....Des Moines
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 Eakle, Paul V.....Des Moines
 Fischer, Wilbert A.....Burlington
 Fleming, Emmet W.....Cresco
 Friedman, David Earl.....Bellingham, Wash.
 Frizol, Alphonse L.....Peru, Ill.
 Harlan, Hester Mishler.....London Mills, Ill.
 Herringlake, Pierre.....Des Moines
 Hickman, Floyd A.....Winthrop
 Holcomb, John M.....Madrid
 Hoye, Joseph L.....Waucoma
 Johnson, Melvin S.....Stratford
 Miller, Albert J.....Nora Springs
 Nelson, Russell V.....Des Moines
 Paxton, Orval M.....Greenfield
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 Rapp, Harry Andrew.....Council Bluffs
 Reiss, Letha L.....Stanton, Neb.
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 Sampson, Milton Eugene.....Des Moines
 Scheibel, Alphonse F.....New Ulm, Minn.
 Schulze, Roland G.....Waverly
 Seylar, John D.....Swea City
 Steinmetz, Edward J.....Cresco
 Steinmetz, Will C.....Cresco
 Thompson, Bowen C.....Breckenridge, Tex.
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 Bonstel, Charlene.....Des Moines
 Broadwell, MildredSpirit Lake

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| Brown, Mildred L..... | Des Moines |
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| Eggleston, Cecil Agnes..... | New London |
| Fenton, Raymond | Plano |
| Guernsey, Constance | Bloomfield |
| Hites, Maynard | Ainsworth |
| Hooks, Lester | Hedrick |
| Iler, Vesta | Des Moines |
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| Korte, Ida R..... | Melbourne |
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| Lindsey, Lenora | Casey |
| Manley, Olive May..... | Des Moines |
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| Nelson, Miriam O..... | Creston |
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| Rawson, Zedonna Lulu | Algona |
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| Webb, Alice M. | Oelwein |

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| Haines, Paul Lee | Seymour |
| Johnson, Tressa H. | Waukon |

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| Snyder, Emory | Norwalk |
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| Wood, Jennie Mae | Des Moines |

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| Olson, Alice A. | Des Moines |

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| Rust, Orville | Sheffield |
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| Wells, Ruth J. | Des Moines |
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| Baldwin, Leslie N. | Aledo, Ill. |
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| Bennett, Ruby M. | Lovilia |
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| Bower, Emerald G. | Seymour |
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| Boyer, LeRoy Jesse | Des Moines |
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| Dourte, William | Swea City |
| Draper, Frank L. | Runnells |
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| Ervin, Fern | Charles City |
| Esslinger, Rolland W. | Sheffield |
| Ewing, LaVere | Des Moines |
| Fisher, Arch C. | Des Moines |

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| Fletcher, Harold H. | Swea City |
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| Garrison, Lemuel A. | Ogden, Utah |
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| Gray, Fern Olive | Des Moines |
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| Ketman, Lawrence D. | Humboldt |
| Kluckhohn, Helen Reynolds | Gilbert |
| Lenox, Theodore W. | Des Moines |
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| Miller, Wallace M. | Des Moines |
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| Montgomery, Theodore K. | Promise City |
| Moore, Francis B. | Des Moines |
| Morrison, Mary I. | Des Moines |
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| Myers, Edwin O. | Glenwood |
| Nemeck, Louise | Pocahontas |
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| Norris, William C. | Des Moines |
| O'Brien, Bruce T. | Sully |
| Oney, William | Des Moines |
| Page, James F. | Des Moines |
| Page, Marshall H. | Des Moines |
| Peterson, Manford B. | Swea City |
| Phipps, Charles W. | Atlantic |
| Phipps, Myrtle L. | Atlantic |
| Porterfield, Jean | Hamburg |
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| Skeeters, Paul W. | Des Moines |
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| Spurgeon, Leta | Popular Bluff, Mo. |
| Staker, John | Mingo |
| Stotler, Sheldon | Shenandoah |

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| Sykes, William H. | Ida Grove |
| Teale, Doris N. | Friend, Neb |
| Thomas, Walter D. | Hamptor |
| Thompson, Dorothy O. | Des Moines |
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| Tolles, L. Clark | Bondurant |
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| Cutler, Edward H. | Des Moines |
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| Strobridge, Glen | Des Moines |

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| Deino, Betty | Des Moines |
| Deidstone, Ardelia | Des Moines |
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| Deidman, Lena G. | Granger |
| Deidman, Cleo | Granger |
| Deidman, Florence | Bondurant |
| Deidman, Gladys | Baxter |
| Deidman, Ruth | Ida Grove |
| Deidman, Sarah | Ida Grove |
| Deidman, Howard | Waterloo |
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| Deidman, Dorothea | Baxter |
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| Deidman, Earle | Cumming |
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| Deidman, Margaret | Ft. Dodge |
| Deidman, Lyda | Weldon |
| Deidman, Ethel | Callender |
| Deidman, Gay | Carlisle |
| Deidman, Eula | Seymour |
| Deidman, Mabel G. | Denison |
| Deidman, Dorothy | Orient |
| Deidman, Delphie | Lanyon |
| Deidman, Ethel G. | Radcliffe |
| Deidman, Ruth E. | Centerville |
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| Biddle, Bertha | Bondurant |
| Bittorf, Vivian L. | Allerton |
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| Brooker, Lucile | San Juan, Texas |
| Brown, James H. | Anita |
| Brownell, Miriam | Sac City |
| Butler, Marjorie | Des Moines |

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| Byers, Maurine A. | Elkhar |
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| Camp, Dorothy | Arisp |
| Carver, Zola Z. | Col |
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| Clifton, William | Omaha, Nel |
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| Conwell, Vera M. | Baxte |
| Davis, Mamie | Hedricl |
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| Miller, Glen T. | Des Moines |

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| Priest, Doris | Hastings |
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| Richards, Lois | Indianola |
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| Rodgers, Mary I. | Granger |
| Ryan, Hazel G. | Des Moines |
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| Welsh, Veola | Atlantic |
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| Woodard, Ruth | Des Moines |
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| Yearous, Alta M. | Arlington |

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| Million, Edward | Des Moines |
| Ott, Hazel | Des Moines |

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| Baldwin, Leah | Des Moines |
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| Benner, Ruby | Des Moines |
| Berry, Helen | Valley Junction |
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| Butler, Elizabeth | Des Moines |
| Caldbeck, Ann | Des Moines |
| Caldbeck, Gertrude | Des Moines |
| Cameron, Jane | Des Moines |
| Campbell, Harriett | Des Moines |
| Carlson, Minnie | Des Moines |
| Casey, Regina | Des Moines |
| Chantry, Ella C. | Des Moines |
| Clarke, Edna | Des Moines |
| Coffman, Adelene | Des Moines |
| Cohen, Ida | Des Moines |
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| Condran, Margaret | Des Moines |
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| De Vore, Minnie | Des Moines |
| Dickey, Anna | Des Moines |
| Dinges, Lulu W. | Des Moines |
| Dinges, Mattie R. | Des Moines |
| Dixon, Mary E. | Des Moines |
| Dunkle, Mary | Des Moines |
| Eade, Mae | Des Moines |
| Edwards, Lydia L. | Des Moines |

*Enrolled for one or more regular college courses in late afternoon and evening classes.

| | |
|---------------------|-----------------|
| Eickhoff, Clara | Des Moines |
| Eide, Mattie K. | Des Moines |
| Eide, Tena | Des Moines |
| Eberhart, Stella | Des Moines |
| Elliott, Nellie E. | Des Moines |
| Ewing, Maude | Des Moines |
| Feulner, Barbara | Des Moines |
| Fitting, Mayme | Des Moines |
| Flack, Margaret | Des Moines |
| Ford, Jessie M. | Des Moines |
| Fulton, Edna | Valley Junction |
| George, Mae R. | Des Moines |
| Golden, Dr. Mary | Des Moines |
| Goodwin, Elinore | Des Moines |
| Goodwin, Ethel | Des Moines |
| Gower, Ida M. | Des Moines |
| Grawe, Avis C. | Des Moines |
| Gray, Nell | Valley Junction |
| Haas, Margery | Des Moines |
| Hagler, Addie | Des Moines |
| Hakanson, Florence | Des Moines |
| Hamilton, L. Mae | Des Moines |
| Hanke, Marguerite | Des Moines |
| Hardin, Faye M. | Des Moines |
| Harned, Marie | Des Moines |
| Hartigan, Anna | Des Moines |
| Hartman, Belle | Des Moines |
| Hefferman, Maude | Des Moines |
| Higgins, Lottie | Des Moines |
| Hoffman, Alberta | Des Moines |
| Hollister, Julia M. | Des Moines |
| Hoppe, Rose | Des Moines |
| Howard, Honora | Des Moines |
| Hunt, Florence M. | Des Moines |
| Iler, Edna | Des Moines |
| Iler, Vesta | Des Moines |
| Jennings, Bertha | Valley Junction |
| Johnson, Faye | Des Moines |
| Johnston, Helen | Des Moines |
| Keeney, Margaret | Des Moines |
| Kelley, Mary L. | Des Moines |
| Kennedy, Jessie | Des Moines |
| King, Estella | Des Moines |
| King, Pauline | Valley Junction |
| Kite, Lillian | Des Moines |
| Kooker, Mae E. | Des Moines |
| Krull, Clara L. | Valley Junction |
| Laird, Adelaide | Des Moines |
| LaMar, Kate | Des Moines |
| Lane, Bertha C. | Des Moines |
| Langfitt, Ellice | Des Moines |
| Laughlin, Kathryn | Des Moines |
| Leasure, Emma | Des Moines |
| Lee, Ethel | Des Moines |
| Lee, Helen M. | Des Moines |
| Leftwich, Metta | Des Moines |
| McAvoy, Gennette | Valley Junction |

| | |
|----------------------------|---------------|
| McCoy, Katherine | Des Moines |
| McFadden, Mary E. | Des Moines |
| McGregor, C. D. | Des Moines |
| McGuire, Stella M. | Des Moines |
| McLain, Leona | Des Moines |
| McLaughlin, Minnie A. | Des Moines |
| McNeill, Grace | Des Moines |
| McRea, Mrs. Lula E. | Des Moines |
| Mallett, Bertha V. | Des Moines |
| Manning, Gertrude | Granger |
| Manning, Mary | Granger |
| Mason, Genevria | Mitchellville |
| Mathieson, S. J. | Des Moines |
| Mershon, Adda | Des Moines |
| Metcalf, Carl W. | Des Moines |
| Mosier, Alice | Des Moines |
| Mosier, Louise | Des Moines |
| Murphy, Gertrude | Des Moines |
| Myers, Ethel M. | Des Moines |
| Myers, Frances | Des Moines |
| Myers, M. M. | Des Moines |
| Newton, Cora | Des Moines |
| Oldham, Coyne U. | Des Moines |
| Olsen, S. W. | Mitchellville |
| Ott, Hazel H. | Des Moines |
| Owens, Lottie | Des Moines |
| Oyler, Nellie | Des Moines |
| Patterson, Audrine | Des Moines |
| Pearson, Pauline | Des Moines |
| Peck, Tid E. | Des Moines |
| Pennington, Fred A. | Des Moines |
| Peterson, Allan | Des Moines |
| Pike, Bertha | Des Moines |
| Porter, Nellie A. | Des Moines |
| Porter, Martha I. | Des Moines |
| Reynolds, E. Estella | Des Moines |
| Rhodes, Dolly B. | Des Moines |
| Rice, Nellie | Des Moines |
| Rist, Eva | Des Moines |
| Robins, Edna | Des Moines |
| Robbins, Jennie | Des Moines |
| Roney, Lillian M. | Des Moines |
| Ross, Lillie I. | Des Moines |
| Searl, Maude | Des Moines |
| Sears, Mary | Des Moines |
| Seeber, Gertrude A. | Des Moines |
| Seems, Ida | Mitchellville |
| Sheehan, Cecelia | Des Moines |
| Shekels, Clara | Des Moines |
| Sherwood, Nora | Des Moines |
| Silvers, Ruth L. | Des Moines |
| Sims, Dimple | Des Moines |
| Singleton, Mary | Des Moines |
| Spoor, Carrie | Des Moines |
| Spoor, Cora J. | Des Moines |
| Springer, Mabel | Des Moines |
| Stohlgren, Anna | Des Moines |

| | |
|----------------------------|-----------------|
| Stone, Sue | Des Moines |
| Stove, R. B. | Des Moines |
| Sturgeon, Mary | Des Moines |
| Swope, Alice | Des Moines |
| Talbott, Eugenia H. | Des Moines |
| Tate, Emma J. | Des Moines |
| Tennant, Cora | Des Moines |
| Tenney, Mildred | Des Moines |
| Thompson, Ella M. | Des Moines |
| Thompson, Katherine | Des Moines |
| Thompson, Margaret | Des Moines |
| Tilden, Ida | Des Moines |
| Toomey, Katherine | Des Moines |
| Troeger, Frieda | Des Moines |
| Troutner, Grace | Des Moines |
| Tussing, Katherine | Valley Junction |
| Volk, Maud S. | Des Moines |
| Wadsworth, Elizabeth | Des Moines |
| Walder, Alma | Des Moines |
| Walder, Mildred | Des Moines |
| Wall, Cleo | Des Moines |
| Wall, Maud | Des Moines |
| Weaver, Lilly | Des Moines |
| Welch, Alena | Des Moines |
| Welch, Mae K. | Des Moines |
| Williamson, Bessie | Des Moines |
| Winston, Unah | Valley Junction |
| Wolcott, Jean E. | Des Moines |
| Woodcock, Grace | Des Moines |
| Worcester, Irene L. | Des Moines |
| Wynkoop, Grace | Des Moines |

COLLEGE OF ENGINEERING

SENIORS

| | |
|-----------------------|------------|
| Garber, Paul J. | Des Moines |
| Smith, Casper R. | Des Moines |

JUNIORS

| | |
|---------------------------|-------------------|
| Anderson, Raymond O. | Des Moines |
| Becker, Gerald | Des Moines |
| Caldwell, Deane B. | Des Moines |
| Cherry, Vern C. | Des Moines |
| Graham, Vere I. | Des Moines |
| Starr, William J. | Northville, Mich. |
| Stringham, R. Paul | Des Moines |
| White, Harold L. | Des Moines |

SOPHOMORES

| | |
|-------------------------|---------------|
| Anders, Wallace E. | Omaha, Neb. |
| Boynton, Orville | Webster City |
| Chestek, Edward E. | Charles City |
| Dawson, Orrie V. | Des Moines |
| Dean, Waldo J. | Des Moines |
| Foster, Donald A. | Chariton |
| Garber, Neil | Des Moines |
| Irvin, Charles A. | Earlham |
| Johnson, Paul C. | Waukee |
| King, Clifford M. | Lincoln, Neb. |

| | |
|-------------------------|------------|
| Kiser, Darwin R. | Auburn |
| Page, Neil J. | Des Moines |
| Phillips, Oren S. | Des Moines |
| Rapp, J. Cyril | Atlantic |
| Simons, Charles E. | Des Moines |
| Sleeper, George A. | Dow City |
| Treat, Glenn H. | Ayrshire |

FRESHMEN

| | |
|-------------------------------|----------------|
| Adams, John H. | Des Moines |
| Ahlberg, Rudolph | Des Moines |
| Alcox, Royal S. | Des Moines |
| Anderson, Carl V. | Waukon |
| Anderson, Robert Leonard | Clive |
| Baty, Edward J. | Des Moines |
| Dean, Donald | Winterset |
| Biddle, Cecil | Hiawatha, Kan. |
| Boatwright, Granville R. | Des Moines |
| Boatwright, Wilbur | Des Moines |
| Brown, Kenneth D. | Des Moines |
| Brown, Ralph A. | Des Moines |
| Campbell, Floyd E. | Centerville |
| Clewell, Orlo E. | Des Moines |
| Curnow, Sam G. | Des Moines |
| Devine, P. Alfred | Des Moines |
| Epperson, Earl W. | Des Moines |
| Goodykoontz, Horace S. | Waukon |
| Hartung, Robert B. | Berwick |
| Hiatt, Edward L. | Des Moines |
| Hoffman, Elbert | Lake City |
| Hopson, C. Frank | Des Moines |
| Hubbard, Paul W. | Des Moines |
| Lauritsen, Marvin | Viborg, S. D. |
| McCauley, Thomas J. | Lucas |
| Miller, Henry W. | Lovell, Wyo. |
| Morrison, Donald E. | Ft. Des Moines |
| Nelson, John E. | Odebolt |
| Pewick, Otto E. | Des Moines |
| Reid, John, Jr. | Boone |
| Shawhan, Olen B. | Des Moines |
| Sherman, Leonard D. | Waukon |
| Tschantz, John L. | Des Moines |
| Viggers, E. W. | Des Moines |
| Wagner, Herman H. | Des Moines |
| Wilson, Roy A. | Des Moines |

SPECIAL STUDENT

| | |
|-----------------------|--------|
| Monson, Clyde H. | Gowrie |
|-----------------------|--------|

COLLEGE OF PHARMACY

SECOND YEAR

| | |
|--------------------------|--------------|
| Barr, Russell R. | Lenox |
| Berry, Wilford G. | Moulton |
| Boecker, Ralph E. | Burlington |
| Borrusch, Virgil R. | Des Moines |
| Bremmer, Gladys B. | Bedford |
| Bremmer, Opal L. | Bedford |
| Carrel, Goldie | Farnhamville |

| | |
|----------------------------|----------------------|
| Arrel, Harry I. | Farnhamville |
| Clifton, Keith M. | Sutherland |
| Epstein, David | Des Moines |
| Farland, Julius N. | Story City |
| Finch, Alfred F. | Burlington |
| Fletcher, Nelson E. | Alliance, Neb. |
| Gunk, Arthur C. | Inman, Kan. |
| Haynor, Gale A. | Bridgeport, Ill. |
| Hilbert, Everett | Des Moines |
| Harvey, Paul W. | Clinton |
| Holland, Richard L. | Kellerton |
| Huffman, William E. | Des Moines |
| Jackson, C. Lowell | Des Moines |
| Johnson, Leslie R. | New Sharon |
| Kierulff, Harvey E. | Osceola |
| King, Elmer J. | Ryan |
| Klink, Ernie H. | Elkport |
| Kosmalski, Michael S. | Taunton, Minn. |
| Levy, Victor S. | Pueblo, Colo. |
| Loupe, Cyril C. | Ft. Pierre, S. D. |
| Masdon, Cluster | Carruthersville, Mo. |
| Mason, Lloyd E. | Altoona |
| Moulton, Raymond F. | Morrison, Ill. |
| Mungerson, Melvin I. | Boxholm |
| Nichols, Frank D. | Mitchellville |
| Oliphant, Fred L. | Des Moines |
| Porter, Claude E. | Atlantic |
| Rime, Fred | Ottumwa |
| Robeck, Ernest W. | Madison, S. D. |
| Rossi, John C. | Des Moines |
| Rust, Lynne L. | Waverly |
| Samuelson, Vernon W. | Des Moines |
| Schekel, Raymond | Lake Andes, S. D. |
| Seeley, Vern N. | Rushville, Ill. |
| Slocum, John W. | Indianola |
| Smith, Frank L. | Bloomington, Ill. |
| Spriggs, Gayland | Woonsocket, S. D. |
| Timmons, Belva C. | Ocheyedan |
| Tracy, James F. | Webster, S. D. |
| Ware, Max Taylor | Moulton |
| Wiewel, Ronald W. | Varina |
| Woods, Merle L. | Des Moines |

FIRST YEAR

| | |
|-----------------------------|------------------|
| Baumgardner, Joseph C. | Des Moines |
| Beecher, George A. | Henderson, Minn. |
| Burns, Clarence A. | Larchwood |
| Case, Frank V. | Des Moines |
| Clay, Russell L. | Des Moines |
| Cole, George W. | St. Louis, Mo. |
| Davitt, Ralph L. | Churchville |
| Deskin, James H. | Des Moines |
| Downer, Lowell W. | Lewis |
| Duxbury, Hugh | Des Moines |
| Eakle, Gerald J. | Waterman, Ill. |
| Eaton, Harold R. | Stockton, Ill. |
| Finkboner, Edith V. | Oregon, Ill. |

| | |
|-------------------------------|---------------------|
| Forker, Hubert M. | Newton |
| Fosket, Samuel H. | Tarkio, Mo. |
| Frommack, Bernard E. | Lewis |
| Giblin, John B. | Vail |
| Glasser, Samuel H. | Des Moines |
| Herndon, Bonnie | Springfield, Mo. |
| Hollingsworth, Eugene B. | Peru |
| Howell, Kenneth K. | Kersey, Colo. |
| Hultberg, Frank O. | Burlington |
| Johnson, Simon C. | Rockford, Ill. |
| Jones, Harold Thomas | West Concord, Minn. |
| King, George H. | Burlington |
| Lersch, Arthur H. | Burlington |
| Lewis, Herman H. | Hastings, Neb. |
| McDonald, True Woods | Lewis |
| McFadden, Dewey E. | Marshall, Mo. |
| Mandrell, Lee | San Jose, Ill. |
| Martin, Charles E. | Larchwood |
| Nelson, Nels | Sioux City |
| Rowland, Harold Wm. | Dixon, Ill. |
| Schaefer, Herbert L. | Burlington |
| Schreiber, Harry E. | Des Moines |
| Scott, Charles L. | Ft. Madison |
| Seward, William J. | Valley Junction |
| Smith, Joseph E. | Des Moines |
| Smith, Manley John | Humboldt |
| Thomas, Leslie F. | Cambridge |
| Wendel, Dwight D. | Story City |
| Williams, Vernon S. | Hastings, Neb. |
| Wilson, Roy R. | Des Moines |

SPECIAL STUDENTS

| | |
|--------------------------|-------------------|
| Campbell, Joseph J. | Livingston, Mont. |
| Sweeney, David J. | Rochelle, Ill. |

SCHOOL OF FINE ARTS

SENIORS

| | |
|--------------------------------|--------------|
| Hulse, Ena Grace | Charles City |
| Richardson, Grace Bernice | Renwick |

JUNIORS

| | |
|--------------------------|------------|
| Boggs, Alice | Churdan |
| Hutchinson, Lois G. | Burlington |
| Proctor, Gladys I. | Des Moines |

SOPHOMORE

| | |
|--------------------|------------|
| Engberg, Mary | Des Moines |
|--------------------|------------|

FRESHMEN

| | |
|---------------------------|---------------|
| Allen, Ruth Lawrence | Des Moines |
| Pettit, Eva | Chariton |
| *Pritchard, Sara E. | Mitchellville |
| Rapp, Mina | Atlantic |

SPECIAL STUDENTS

| | |
|-----------------------------|--------------|
| Bach, Isabel Hearshman | Des Moines |
| Caffrey, Arthur L. | Farnhamville |
| *Deceased. | |

| | |
|------------------------------|------------|
| Christina, Emelie E. | Des Moines |
| Griffing, Burgoyne | Des Moines |
| Jarnagin, Hubert C. | Monroe |
| Kern, Cecelia K. | Des Moines |
| Kern, Margaret M. | Des Moines |
| O'Connell, Katherine M. | Des Moines |

UNCLASSIFIED

| | |
|-------------------------------|----------------|
| Amon, Grace | Ft. Des Moines |
| Anderson, Dona | Des Moines |
| Anderson, Keith | Des Moines |
| Armington, Donald | Des Moines |
| Armington, Dorothy | Des Moines |
| Bailey, Eleanor | Des Moines |
| Barker, Philip | Des Moines |
| Beveridge, Jeanne | Des Moines |
| Bristley, Faye | Conrad |
| Brown, Marjorie | Des Moines |
| Bunker, Bernice | Des Moines |
| Bunker, Dorothy | Des Moines |
| Clawson, Flora | Des Moines |
| Coon, Louise | Des Moines |
| Crawford, Walter | Des Moines |
| Culbertson, Frances | Des Moines |
| Cunningham, Marjorie | Des Moines |
| Cutler, Nellie | Des Moines |
| Dewey, Helen | Des Moines |
| Dungan, Jane | Marathon |
| Edwards, Richard | Des Moines |
| Frye, Kathryn | Des Moines |
| Frye, Marion | Des Moines |
| Goodell, Gladys | Des Moines |
| Graves, Philip | Des Moines |
| Gross, Carl | Des Moines |
| Heath, Margaret | Des Moines |
| Hemminger, Mary Margaret | Des Moines |
| Jacobson, Agnes | Des Moines |
| Jensen, Dorothy | Des Moines |
| Jensen, John | Des Moines |
| Johnson, Gladys | Des Moines |
| Keeney, Beulah J. | Des Moines |
| Kenyon, Annetta | Des Moines |
| Knapp, Dorothy | Des Moines |
| Koester, Marie | Des Moines |
| Krarup, Elizabeth | Des Moines |
| Krarup, Helen | Des Moines |
| Laughead, Charles | Des Moines |
| Laughead, Margaret | Des Moines |
| Lawson, Raymond | Des Moines |
| Layman, Donald | Des Moines |
| Longstaff, Arlene | Des Moines |
| McDonald, Margaret | Des Moines |
| McHaffie, Hartley Ward | Des Moines |
| Mansfield, Helen | Des Moines |
| Miller, Denmar | Des Moines |
| Mills, Mary | Des Moines |
| Moore, Donald | Des Moines |

| | |
|-------------------------------|------------|
| Morris, Joan | Des Moines |
| Morrow, Thelma | Des Moines |
| Muelhaupt, Leone | Des Moines |
| Myers, Thelma | Ottumwa |
| Nelson, Bernice | Des Moines |
| Nordenson, Bertha M. | Des Moines |
| Northcut, Catherine | Des Moines |
| Nau, Muriel | Des Moines |
| Ogilvie, Paul | Des Moines |
| Ogilvie, Ruby | Des Moines |
| Olson, Charlotte | Des Moines |
| Olson, Evelyn | Des Moines |
| Orriny, Dorothy E. | Des Moines |
| Palmer, Janet | Des Moines |
| Parker, Mary | Des Moines |
| Petty, Caroline | Des Moines |
| Petty, Pauline | Des Moines |
| Pye, Alice | Des Moines |
| Rank, Lois L. | Des Moines |
| Reed, Lawson | Des Moines |
| Riddle, Caroline M. | Des Moines |
| Robinson, H. D. | Maxwell |
| Robinson, Nancy | Des Moines |
| Robyns, Dorothy | Des Moines |
| Roller, Faye | Des Moines |
| Rusing, Blanche | Des Moines |
| Saffell, Floyd | Des Moines |
| Sampson, Dorothy | Des Moines |
| Sanford, Mark | Des Moines |
| Sharp, James | Des Moines |
| Sheriff, Alcena | Des Moines |
| Shull, Thelma | Des Moines |
| Slinker, Dorothy | Des Moines |
| Sonnichsen, June | Des Moines |
| Southworth, Helen | Des Moines |
| Sterrett, Delbert | Des Moines |
| Sweeney, Irene | Des Moines |
| Tate, Laura | Des Moines |
| Taylor, Helen | Des Moines |
| Taylor, Ruth | Des Moines |
| Thelen, Erleen I. | Des Moines |
| Thompson, Florence | Des Moines |
| Thompson, Myrtle | Des Moines |
| Tyrrell, Pearl | Des Moines |
| Van Benthuyssen, Clover | Runnells |
| Van Dam, Martin | Des Moines |
| Waters, Charlotte | Des Moines |
| Waters, Doris | Des Moines |
| Waters, Victor | Des Moines |
| Wharton, Eunice | Des Moines |
| Wharton, Lucy | Des Moines |
| Wheeler, Mrs. Jessie | Des Moines |
| Whittemore, Margaret | Des Moines |
| Wicks, Howard | Des Moines |
| Wilcox, Elizabeth | Des Moines |
| Williamson, Evelyn | Des Moines |
| Wisdom, Reginald | Des Moines |

| | |
|--------------------------|------------|
| Witter, Emily | Des Moines |
| Wray, Lucile | Des Moines |
| Wright, Elise Ulespitsch | Chariton |
| Wright, Janette | Des Moines |
| Yoder, Betty | Des Moines |

INSTITUTE

PREPARATORY DEPARTMENT

| | |
|-----------------------|--------------------|
| Abel, Stanley E. | Des Moines |
| Alfson, Orlando M. | Lakeville, Minn. |
| Anderson, Agnes | Des Moines |
| Barber, Lyman | Minneapolis, Minn. |
| Baxter, Virgil | Guthrie Center |
| Boyd, Franklin H. | Des Moines |
| Cordes, Gilbert E. | Gilmore City |
| Craven, Thomas H. | Des Moines |
| Easton, Royal N. | Diagonal |
| Ervin, Earl | Charles City |
| Fasnacht, Willis | Des Moines |
| Fjelland, Sanford | Des Moines |
| Gelfand, George | Platte, S. D. |
| Geneser, Loretta | Granger |
| Glas, Ernest | Des Moines |
| Handelman, Mendel | Des Moines |
| Hansen, Arnold J. | Des Moines |
| Harvey, Tiara | Ankeny |
| Hollingshead, Helen | Van Meter |
| Hughes, Lenore | Afton |
| Humke, Warren D. | Dubuque |
| Iverson, Harold B. | Des Moines |
| Johnson, Simon | Rockford, Ill. |
| Jorgensen, Chris | Viborg, Minn. |
| Larsen, L. Arthur | Audubon |
| Layman, Dorothy | Des Moines |
| McCauley, Thomas | Des Moines |
| Miller, Glen T. | Des Moines |
| Minzberg, Isaac | Des Moines |
| Minzberg, Esther | Des Moines |
| Montgomery, Albert R. | Valley Jct. |
| Moore, Luster C. | Des Moines |
| Nelson, Nels | Sioux City |
| Nordquist, Lillian | Spencer |
| Orr, Sams | Benton |
| Pearson, Verne | Berwick |
| Powell, Wilmer C. | Des Moines |
| Rear, John Glenn | Brazil |
| Scott, John | Toronto, Kan. |
| Seastrand, Carl | Des Moines |
| Smith, Van C. | Mitchell |
| Strawn, Kenneth | Des Moines |
| Sweeney, David | Rochelle, Ill. |
| Trites, Hinson L. | Melrose, Mass. |
| Van Alstine, Dana | Gilmore |
| Whiteman, Roy B. | Des Moines |
| Williams, Hervey R. | Sibley |

| | |
|---------------------|----------------|
| Wilson, Emma | Des Moines |
| Workman, Joye | Edmunds, N. D. |

INDUSTRIAL DEPARTMENT

| | |
|--------------------------|-----------------|
| Amos, Graves | Smithfield, Mo. |
| Bartlett, Otto A. | Des Moines |
| Coffman, J. C. | Des Moines |
| Cramer, Earl | Jefferson |
| Davis, Clarence | Des Moines |
| Dodd, F. W. | Des Moines |
| Fredregill, Earl O. | Des Moines |
| Goerndt, Charles P. | Des Moines |
| Harden, Harold | Des Moines |
| Hunter, Curtis M. | Des Moines |
| Kelley, Thomas N. | Columbus Jct. |
| Koger, Charles | Decatur |
| Luther, Roy C. | Mason City |
| McCuffey, George | Ottumwa |
| McKenzie, Elmer | Carson |
| Oliver, Harry | Des Moines |
| Perkins, William E. | Richland, Mo. |
| Rhoades, Bert | Des Moines |
| Ringland, Carl | Albia |
| Smith, T. T. | Des Moines |
| Stapleton, James | Des Moines |
| Taylor, Thomas C. | Des Moines |
| Wilkinson, A. H. | Waukon |

DANISH BAPTIST THEOLOGICAL SEMINARY

| | |
|---------------------------|---------------------|
| Christensen, Walter | Audubon |
| Grarup, Andrew S. | Newell |
| Jensen, Einer | Alden, Minn. |
| Jensen, John | Viborg, S. D. |
| Nielsen, Emil | Audubon |
| Olson, Edwin | Camp Douglass, Wis. |
| Petersen, Edward | Council Bluffs |
| Rhode, Marius | Cedar Falls |
| Thomsen, Christian | Denmark |
| Wittrup, Roy W. | Manning |

SUMMARY OF ATTENDANCE

| COLLEGES OF LIBERAL ARTS AND EDUCATION | Men | Women | Total | |
|--|-----------|-----------|-----------|------------|
| Seniors | 19 | 16 | 35 | |
| Juniors | 17 | 20 | 37 | |
| Sophomores | 41 | 64 | 105 | |
| Freshmen | 118 | 111 | 229 | |
| Special Students | 6 | 10 | 16 | |
| *City School Teachers | 11 | 184 | 195 | |
| | <hr/> 212 | <hr/> 405 | <hr/> 617 | 617 |
| COLLEGE OF ENGINEERING | | | | |
| Seniors | 2 | | 2 | |
| Juniors | 8 | | 8 | |
| Sophomores | 17 | | 17 | |
| Freshmen | 36 | | 36 | |
| Special Students | 1 | | 1 | |
| | <hr/> 64 | <hr/> | <hr/> 64 | 64 |
| COLLEGE OF PHARMACY | | | | |
| Second Year | 46 | 3 | 49 | |
| First Year | 42 | 1 | 43 | |
| Special Students | 2 | | 2 | |
| | <hr/> 90 | <hr/> 4 | <hr/> 94 | 94 |
| SCHOOL OF FINE ARTS | | | | |
| College | 7 | 56 | 63 | |
| Unclassified | 25 | 86 | 111 | |
| | <hr/> 32 | <hr/> 142 | <hr/> 174 | |
| Less Duplications | 4 | 41 | 45 | |
| | <hr/> 28 | <hr/> 101 | <hr/> 129 | 129 |
| UNIVERSITY INSTITUTE | | | | |
| Preparatory Department | 40 | 9 | 49 | |
| Industrial Department | 23 | | 23 | |
| | <hr/> 63 | <hr/> 9 | <hr/> 72 | |
| Less Duplications | 9 | 1 | 10 | |
| | <hr/> 54 | <hr/> 8 | <hr/> 62 | 62 |
| Total for Academic Year | <hr/> 448 | <hr/> 518 | <hr/> 966 | 966 |
| SUMMER SCHOOL, 1922 | 155 | 349 | 504 | |
| Less Duplications | 51 | 40 | 91 | |
| | <hr/> 104 | <hr/> 309 | <hr/> 413 | 413 |
| Net Total for the Year | | | | <hr/> 1379 |

*Teachers in the public schools of Des Moines enrolled for one or more regular college courses, in late afternoon or evening classes.

INDEX

| | | | |
|--|-------------------------|---------------------------------------|---------------------|
| Admission: | | High School and Departmental | |
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COLLEGES AND SCHOOLS OF THE UNIVERSITY

THE COLLEGE OF LIBERAL ARTS

Standard four-year courses leading to the Bachelor of Arts and the Bachelor of Science degrees.

THE COLLEGE OF EDUCATION

Four-year courses leading to the Bachelor of Arts and the Bachelor of Science degrees and the first grade State certificate. Two-year courses leading to a University diploma and the third grade State certificate.

THE COLLEGE OF ENGINEERING

Four-year courses in Architectural Engineering, Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, with the corresponding University degrees.

THE COLLEGE OF PHARMACY

Courses leading to the degrees of Graduate in Pharmacy, Pharmaceutical Chemist, and Bachelor of Science in Pharmacy.

THE SCHOOL OF FINE ARTS

Conservatory of Music, granting the Bachelor of Music degree.
Department of Drawing and Painting.
Department of Dramatic Art.

THE UNIVERSITY EXTENSION DIVISION

Extending the campus to the limits of the State, with correspondence courses in college, vocational, and professional subjects.

APPLICATION FOR ROOM RESERVATION DES MOINES UNIVERSITY

Enclosed please find \$10.00 retaining fee for reservation of room
on.....floor in.....Hall;
this fee to apply on room rent at time of Registration.

Name

Street No. or R. F. D.....

City,....., State.....

Date.....

See page 27 for rates, Eleanor Childs Hall for women and Johnson Hall for men. An early reservation will allow choice of rooms.

UNIVERSITY OF ILLINOIS-URBANA



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